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ABSTRACT

A model for enhancing the local capacity of urban schools for solving problems by restructuring school settings is the subject of this paper. In identifying the strength and weaknesses of such a concept, the paper reviews data from nine sites studied by the Documentation and Technical Assistance (DTA) project for their applicability to other settings. A decentralized political milieu, similar to that which obtained in the 1960s, is theorized to be conducive to innovative ideas that draw on local resources. Other areas discussed include: problems with observing "capacity" for problem solving; the concepts of "problem" and "problem solving" themselves; various options for determining what is "local"; and the importance of nonlocal factors in shaping school processes. Appended are methodological descriptions of the population studied by the DTA, the nature of the DTA contract and of the organizations receiving the contract, and the documentation and analysis procedures. (AOS)

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DOCUMENTATION AND TECHNICAL ASSISTANCE IN URBAN SCHOOLS

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EXPLORATIONS OF THE CONCEPT OF LOCAL CAPACITY FOR PROBLEM SOLVING: AN INTRODUCTION TO A SERIES OF PAPERS ANALYZING NINE SCHOOL IMPROVEMENT PROJECTS

Stephen H. Wilson

August 1977

DRAFT VERSION

FOR LIMITED CIRCULATION ONLY

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PROJECT OVERVIEW

The Documentation and Technical Assistance in Urban Schools Project (DTA) is an effort to learn more about how to make urban public schools work better for urban students. Toward this end, DTA combines educational research and practice within one project. DTA's mandate has three interrelated parts:

> DOCUMENTATION - to study, using primarily ethnographic techniques, the ways in which selected urban schools organize themselves to solve problems. Documentation focuses upon nine sites throughout the country selected and funded by NIE to continue to engage in locally initiated improvement activities.
>
> TECHNICAL ASSISTANCE - to develop in practice specific strategies which are designed to improve urban public schooling. Technical assistance strategies are based in part upon documentation of useful practices in the nine funded sites.
>
> LINKAGE - to increase understanding, through observation of DTA's attempts to link documentation with technical assistance, of the processes through which research can be useful to practice, and practice can influence research.

Our work is designed to effect school improvement through direct work in urban public schools and through sharing what we learn with the following audiences: parents, teachers, and administrators of urban public schools; the educational research community; groups or agencies working to assist urban schools; policy makers.

ACKNOWLEDGEMENTS

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CHAPTER I: INTRODUCTION AND CONTEXT OF THE CONCERN WITH CAPACITIES FOR PROBLEM SOLVING

Introduction

Urban schools are notorious for not serving their clients well. In the last decades, there have been major efforts to improve these schools. Social scientists and the public have been disillusioned with the results of these efforts. In a report entitled Building Capacity for Renewal and Reform, the National Institute of Education (1973) staff expressed the view of a growing number of those concerned with improving schools. The report suggested that these efforts may not have been successful because they concentrated on introducing particular innovations rather than on restructuring the schools in ways that would enable them to work successfully on their problems on a long term basis.

This new approach to what is necessary for genuine, enduring improvement of schools is based on the premise that there are local, structural arrangements of some school settings which more than others seem to lead to sustained improvement. Moreover rather than concentrating just on the adoption of innovations, this approach presumes that a wide array of actions might be part of a process of solving problems including such activities as modifying externally introduced innovations, internally modifying the setting, resisting modifications, and so on. This quality of a school setting in which people are able to do whatever has to be done to work on problems has been called a local capacity for problem solving.

The Documentation and Technical Assistance Project (DTA) was awarded a contract by the National Institute of Education to explore the usefulness of this paradigm for people concerned with improving urban schools. What specific kinds of actions are necessary for solving problems and

what structures seem to promote these actions on a long term basis are not very well understood. We were to gain this understanding by studying nine locally initiated projects selected by NIE through a national competition, which they judged to exemplify promising approaches to building local capacities and by trying to use what we learned to help other schools restructure themselves.* The DTA unit with the responsibility for documenting the experience of the nine sites has now shared the lives of these sites for a period of two and a half years. We have learned much about how school settings might be structured to support ongoing processes of problem solving and about what might be done to help schools restructure themselves in these ways. We have produced a case study for each of the nine sites. Finally, we are writing a series of comparative analyses of what we have observed in the various sites. The present paper is an introduction to this series.

In this paper we critically dissect the paradigm of local capacity for problem solving which is at the core of DTA's work. We discuss the assumptions that seem to underlie use of this concept and some of its inherent ambiguities. Basing our analysis on data from the nine sites, we examine intricacies which are involved in applying the concept in real school situations and in connecting it with various research traditions. The present refinement of the concept of local capacity for problem solving is an important outcome of our research and is a crucial part of our making a judgement about the usefulness of this approach. Our aim in this paper is to identify aspects of the concept which are useful and those we find confusing and in need of further refinement.

* For more information on the nine sites and DTA's dual emphasis contract, see the methodological appendix to this paper.

We believe that this introductory critique of the concept will be useful for readers in interpreting the substantive cross-site analysis papers and for persons interested in a conceptual background to the work of improving schools. We believe that this approach to insuring durable improvement of schools is promising but must be used with care and critical reflection.

In the first chapter we discuss the larger social context out of which an interest in local capacities for problem solving arises. We briefly describe the political milieu which emphasizes decentralization, the experience with innovations in the 1960's which shows the importance of local settings in shaping what really happens and a shift in educational research away from the search for universally applicable general principles toward the attempt to understand interactive and situational determinants of behavior. Anyone entertaining the paradigm of local capacities needs to be aware of these substrata of assumptions and history so they will not be blinded to other approaches to the improvement of schools.

In the second chapter we analyze each term in the phrase "capacity for local problem solving." In this chapter we discuss the applicability of the concept of capacity to school settings. We present conceptual difficulties with the term. We note that one major difficulty is the impossibility of directly observing an organizational capacity and suggest that capacity must be inferred from a pattern of actions over time. We submit that the most beneficial focus for those interested in improving schools is understanding what features of school settings seem to support ongoing processes of improvement. We then discuss three substantive research traditions which the data from the nine sites convince us are relevant to identifying and understanding these features. These three traditions are (1) the school's connection to its political and cultural environment;

(2) teaching as a craft occupation; (3) the school as an organization. These traditions can be somewhat integrated but often are at odds in emphasizing very different features of settings. We conclude that the idea of capacity as an enduring (adaptive) quality of a school setting is potentially very fruitful, but warn that the complexity of school settings make the identification of features which lead to a capacity difficult.

In the third chapter we discuss the concepts of problem and problem solving. We show that naming something a problem constitutes a definition of a situation which can vary from group to group and thus can be the cause of much ambiguity. We present the great variety of situations called problems by people in the sites. We discuss how people in the nine sites think about problem solving and what other conceptualizations they use to describe this area of interest. We conclude that there are many dangers in using the notion of problem solving as a concept to guide work in schools. We suggest that it should be used only with great care and with awareness of the ambiguities it covers.

In Chapter Four we consider the term "local." We discuss the reasons for emphasizing the local aspects of school improvement. We present the variety of options there are for specifically determining what is meant by local. Finally, we discuss the importance of nonlocal determinants of what happens in schools as an aid to prevent us from being blinded by our concentration on local features.

At the end of this paper we present a methodological appendix. In it we discuss the population of projects we studied and NIE's role in shaping that population - i.e., the request for proposals used to stimulate projects to compete, the methods of selection, the criteria for selection and the kind of projects selected. Next, we discuss how the nature of the DTA contract and the nature of the organizations which

received the contract may have influenced our research and analysis. We then discuss the methodology used to study the projects and to conduct cross-site analyses and some of its theoretical underpinnings.

We present these extensive introductory materials because we believe the research milieu has a major and often unacknowledged impact on research activities. Too often researchers do not share this material because they believe it is irrelevant to what they think of as the objective undertaking of social science. Certainly there are steps that social scientists take to limit and control bias and we have taken them. Nonetheless, the reader needs to have as much information as possible in order to make independent judgements about issues such as what questions were not asked and about unrecognized biases on the part of researchers and analysts. Some readers may want to read the methodological appendix before proceeding. We urge them to do so.

Context for Interest in Capacities for Local Problem Solving

An emphasis on local problem solving in education can best be understood in the context of more general societal trends. There is disillusionment in the efficacy of the federally initiated programs of the sixties in addressing social problems. Many analysts question the ability of large bureaucracy to accomplish many important tasks in government and other realms such as business and social service. Bureaucracy is seen as ineffective because of the distance of decision makers from the people served and because of the excess energy required to have a bureaucracy complete tasks that smaller decentralized units could do more easily. Political pressures are being exerted to get resources and the related right to define problems and assign priorities back in the control of

local governments as illustrated by the recent programs of revenue sharing and the 1976 platforms of both major political parties. Decentralization is a rallying call.

It may be, of course, that one reason the federal government finds the concept of local problem solving so appealing is that they hope to avoid many of the basic value issues underlying decisions about social action. Helping locally based people sounds like a positive and uncontroversial activity. As I show in subsequent sections, however, the value issues ultimately cannot be avoided and local people must contend with them.

Similar forces exist in education. The emphasis on local problem solving in education grows out of even more than these general societal forces. Research has accumulated in the last decades to show how important local organizations and political entities are in determining what happens in schools. Furthermore, the studies of implementation of large scale curricular and teaching innovation programs (Ford Foundation, 1972; Berman and McLaughlin, 1975) have shown how powerfully the local setting can reshape and modify even supposedly standarized programs.

In the organization of NIE in 1973 one of the major divisions focused on research to identify how local entities work to solve educational problems. An announcement of the following year contains a statement about the original NIE policy priority:

> The problem solving priority results from a policy study undertaken by NIE staff (Building Capacity for Renewal and Reform, NIE, December, 1973). A major part of that study addresses the issue of how to bring about a continuous capacity for self-improvement in schools and school districts. The study reviews past federal efforts to stimulate school change, taking note of research findings that point out that while there has been much "innovative" activity in the schools little of it has resulted in sustained change. The study argues that previous reform strategies often failed because insufficient attention was addressed to the development of local

organizational capacities to sustain a process of school improvement. (Program Announcement: Grants to Develop Organizational Strategies for Sustained Improvement of Urban Schools, NIE - PA-74-01, 1974).

There are several underlying assumptions implicit in a concern about local problem solving. First, there is the assumption that local people are the best ones to identify and make decisions about their problems and/or that they are the most effective ones to implement actions. There may also be a value position that they are the ones who ought to be involved.

The emphasis on local problem solving has a second important set of assumptions. At one time educators seemed to think that there would eventually be universally applicable psychological or curricular principles that would form the bases of improving the schools. Now there is more skepticism about such principles. Vast programs of research undertaken to identify preferred teaching methods or organizational philosophies for schools have resulted in confusing and contradictory findings. Stephens (1967), for example, writes about the failure to obtain consistent findings about the effectiveness of different styles of teaching.

One conclusion to be drawn from these research results is that the uniqueness of local settings wields such influence on outcomes that general principles and approaches are useful only as guidelines. Each local setting must be considered, and a general approach must match local situations and goals. Thus, an emphasis on local problem solving is justified. Also research is thus warranted on what features of local settings facilitate the effectiveness of this modification process.

There is much more analysis that could be conducted about societal and educational research contexts out of which this emphasis on local

capacity arises, about the way recent experience with innovations has been interpreted, and about the assumptions and ideology that underlie this emphasis. Such a fundamental examination is beyond the scope of what we take to be our task in this project. For further discussion of the way recent experience with innovations has led to this emphasis we refer the reader to other sources (NIE, 1973, 1975; Havelock, 1969; Fullan, 1972; and Berman & McLaughlin, 1975).

In order to have a foundation on which to work, we researchers within the Documentation unit of the DTA Project have had to accept the possibility of the existence of such things as local capacities for problem solving. At the same time we have taken a consciously critical stance toward these concepts and have tried to conduct our documentation and analysis in a way that would generate information about the viability of the concepts and the fruitfulness of such a view of schools (see Johnson, 1977).

We take this critical stance because we are researchers, but we do so within the context of a project dedicated to facilitating actions based on acceptance of the basic concepts. Testing these assumptions was not part of our contract with NIE nor was it evidenced in their selection of local school problem solving strategies to be studied. Other units within the DTA Project are devoted, as was the intent from the beginning of the project, to working within local schools to assist with building problem solving capacities. Their involvement in giving assistance works against any profound questioning of underlying assumptions. Part of the work of the documentation unit is to supply the assistance units with information which will directly support the assistance effort. We find ourselves then in the fascinating predicament of

being questioning researchers at the same time that we give informational and collegial support to assistors. Thus the following chapter questions the uses of the concept of capacity.

CHAPTER II: THE CONCEPT OF CAPACITY: AMBIGUITIES AND THEORETICAL BACKGROUND . .

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THE CONCEPT OF CAPACITY: AMBIGUITIES AND THEORETICAL BACKGROUND

Two members of School A's parent cadre attended the district wide title I public meeting as they always tried to do. They were trying to stay aware of new policies and exercise an influence on events that might affect their school and their children. A few days later the cadre held a meeting as was their custom to analyze the public meeting. The leader of the group lead the parents to the discovery that the agenda of the public meeting was designed as it was to limit the time available for certain topics. They also speculated that there was a pattern to how members of the audience were allowed to speak. They talked about this meeting as an instance of the ways the white power structure keeps Black communities from being able to determine their own fate. Cadre members said they would be more aware of these patterns in the future. The leader helped them to design strategies for counteracting these patterns in future meetings.

Two teachers were discussing ways the scheduling and registration worked at their school. Most teachers complained it took too much time away from teaching. One had an idea how to computerize the process and resolve to make a proposal to the improvement committee. He felt the improvement committee would consider this a high priority because of the potential time savings. He knew that the improvement committee could give him released time and resources to work out the computerization if they thought the idea worthwhile. He knew that other ideas that had gone through this process were now part of school life.

Two teachers met in the hall. Teacher A asked teacher B for advice in the series of activities she was planning to increase the children's awareness of their bodies. She knew through observation that Teacher B had great success with this topic. Teacher B asked Teacher A some questions about what she hoped to accomplish and talked about how Teacher A could tie these activities in with earlier ones on dance that Teacher B had observed in Teacher A's class. They talked about bringing up the plans in the next hall meeting with the assistor. They were both sure the assistor would know of many materials at the teacher center that would help Teacher A. This sequence would be constantly repeated with variations.

Introduction

The vignettes above are suggestive examples of what we see as positive happenings in schools. For some these happenings are possible evidence of the existence of a capacity for problem solving. The concrete realities should be kept in mind as the reader proceeds.

The idea of capacity is elusive when applied to school settings. Our research which has attempted to investigate what constitute capacities for problem solving in real settings has highlighted several of the difficulties with the concept. Awareness of these difficulties is essential to anyone trying to use the concept of capacity as a tool for understanding or working with schools.

Perhaps the chief difficulty is the abstract quality of the concept. As we elaborate more fully below the very idea of capacity of school setting is problematical. 1. Capacity is a trait. It is something which cannot be seen but must be inferred. 2. Capacity is being attributed to a complex setting rather than to an individual. How do groups of people, buildings, and historical entities have a trait? 3. Capacity is assumed to be persistent. How does one know if a capacity exists until the behaviors it supposedly enables are manifested over time? The emphasis within DTA on actually using our research to try to improve schools has led us to conclude that the ethereal trait cannot be the real immediate focus of our work. Rather we must be concerned with the characteristics and qualities of settings which we believe to underlie the existence of a capacity. These are what can more easily be observed and worked with. At the same time however, the concentration on these characteristics that

can be manipulated cannot be allowed to become a trap. They are focused not for their own role, but rather for their hypothesized connection with a more holistic capacity.

In this chapter we identify three substantive research traditions which our documentation sites suggest are fruitful guides for looking at features of settings. The three traditions are: 1) The school's connection to its political and cultural environment, 2) Teaching as a craft and occupation, and 3) The school as an organization. Each of these traditions offers ideas about what is fundamentally wrong with schools and what features need to be attended to in order to structurally insure sustained improvement.

As we explained earlier, the focus on capacities is an attempt to break out of the paradigms that have dominated education in the last decades. Recognizing that the innovations of the sixties rarely resulted in fundamental change, the NIE unit for School Capacity for Problem Solving and others of similar bent (e.g., Schmuck & Runkel, 1972) felt the need to change radically the questions asked. Rather than asking what new ideas would be the salvation of the schools, they asked what features of local school settings led some of them to continual process of attempted improvement and creative coping with problems including both internal modification and genuine adaptation and incorporation of new ideas.

We believe that this quest to understand capacities is worthwhile. Capacities offer promise of outliving particular fads and of enabling schools to deal with changing contexts. While a noble goal, capacity is

hard to work with as a concept. We propose that features which may lead to a persistent pattern of improvement activities are a useful focus.

These features are good places to lopk if one is trying to understand why some school settings seem to be relatively persistent and proficient over time at attempting to solve their problems or at moving toward improvement - i.e. have a "capacity" for problem solving. Our chain of logic has been as follows: Identify activity which someone will identify as attempted problem solving or improvement or as a missed opportunity for this kind of activity. Try to identify a pottern of these activities over time. Try to analyze the features of the school setting which might account for the persistence of these activities or their absence. Use the research traditions for suggestions of particular features to watch for understanding connections between features.

Difficulties with the Concept of Capacity

In this section we outline several difficulties with the concept of capacity. They include:

1. The need to be concerned with not only with the ability to perform some actions but also the propensity to perform them.
2. The difficulty of extrapolating from observed instances of problem solving to the conclusion that a setting has a capacity trait.
3. The question whether it makes sense to think of one capacity or multiple capacities.

Conceivably, a school community could <u>have</u> an ability and choose not to exercise it. In fact it is possible that many difficulties of school

communities may come more from choices not to act, rather than from lack of capacity. A slightly expanded view of capacity might include whatever is necessary to impel action, as well as, the ability to take certain actions. This view is probably a more appropriate one when thinking about school capacities for problem solving.

Another problem is what constitutes evidence of a capacity. The concept of capacity carries with it the idea of being a persistent attribute or trait of the setting. Yet, an observer can only extrapolate from instances that seem to demonstrate the ability and from other supporting data - e.g. internal and external people judging that the setting has a capacity. In other words, the criteria for judging how much of a capacity a setting has might include such measures as how quickly does a school solve new problems, how little energy is necessary to solve new problems, how often do problems recur, etc. (Miles, 1976).

Whatever criteria are used it is a risky operation to jump from observed instances of problem solving activity to conclusions that a long term capacity exists. This is especially tricky when talking about capacities of an organization* or set of organizations because their boundaries and identities are so subject to change over time. That is, the actual people involved may change and the set of conditions that prevailed one year may dissappear the next.

In later sections of this chapter, we discuss features of settings

*We use the term organization very broadly. We mean human collectivity of any kind. A school/community is composed of many organizations and unaffiliated individuals. Nonetheless, it may have a reality as a whole in the same way that formal organizations do.

which transcend particular individuals. These are features which can be passed on from organizational generation to generation. They include the shared social constructions of realities, shared motivations, internal patterns of action and patterns of interaction of schools with their environments.

Someone interested in capacity for problem solving must be wary of equating any single successful problem solving activity with capacity. Capacity implies an ability and propensity to perform a category of actions which has some longevity. At the same time, however, an analyst must be wary of holding some overly stringent, impossible to attain view. It is a major accomplishment for urban schools to solve a problem let alone to have capacities for continuous problem solving.

The question whether there is a single capacity for problem solving or several capacities is another difficulty. The multiplicity of goals schools have, problems they face, obstacles to action they confront, the complexity of the actions involved in problem solving, the settings they exist in, and organizational patterns they assume offer prima facie evidence that there are probably a multiplicity of capacities. In order to be general one would probably be forced to be too abstract. The next chapter on problems and problem solving discusses the variety of issues schools work on as evidence of the probability of multiplicity of capacities.

Specifying how organizations as entities of their own can have capacities or any other characteristics, is another important issue. Through

the work of systems theorists (e.g. Buckley, 1967) and organization theorists (e.g. Katz and Kahn, 1966; March, 1965), it is fairly well accepted that all human organizations are more than the sum of their parts and that they have lives of their own. One cannot talk about a capacity for problem solving until one has demonstrated that organizations can have attributes. A full discussion of that issue is outside the scope of this paper but many of the papers produced by DTA present indirect evidence that organizations can have characteristics. We believe that these difficulties make it hard to work directly with the concept of capacity. Nonetheless, we believe the core of the concept-notably the idea that settings can have qualities which transcend individuals and which imply an ability and propensity to engage in beneficial actions in a sustained manner-is extremely important and worth exploring as a guide for analysis and action. We propose that the best way to approach the subject is to identify features of settings which support this ability and propensity to initiate and sustain beneficial actions and to work with them.

Research Traditions

One can draw on any number of research traditions for guidance when asking what is it about local school settings that lead to sustained improvement activities. As we explain in the methodological appendix, DTA adopted a grounded theory approach - that is, we entertained multiple theoretical perspectives and tried to use our experience with data from the nine sites to determine what would be the most fruitful perspectives.*

*The reader is urged to read the methodological appendix in order to understand limitations in the range of the nine strategies NIE funded and resultant limitations on our process of identifying the most fruitful perspectives. Experience with different kinds of sites might have led us to see other perspectives as valuable.

At this point we believe three very different substantive research traditions can offer much in understanding what constitute capacities for problem solving and thereby, in interpreting our data. The three traditions are:

1. The study of schools' relationships to their cultural and political environments.
2. The study of teaching and teaching as a craft and occupation.
3. The study of schools as formal organizations.

Each of these traditions differ in what they take to be the most salient features of school settings. They also differ in what they understand to be the fundamental causes of school problems and hence in what features of a setting they feel would result in capacities for sustained problem solving. The second section of the next chapter which describes the variety of ways problems are perceived demonstrates some of this diversity. We are convinced that each tradition offers significant insights into what is necessary for sustained improvement in urban schools. Our experience with the nine sites has shown us promising features which could best be interpreted within one of the traditions. We suspect that the strongest capacity would result from a combination of the features differentially emphasized by the various traditions. In some instances the different traditions are mutually contradictory - suggesting opposite, somewhat irreconcilable points of view and in other instances they are supplementary - emphasizing different features that could be integrated easily. In the sections that follow, we do not attempt a synthesis but

rather present the traditions separately. In forthcoming substantive cross-site analysis papers we use data from the sites to fashion syntheses where possible.

Relation to Cultural and Political Environment

This tradition emphasizes the schools' connection or lack of connection to the communities they serve. The connections are both political and cultural. For those who work within this tradition a capacity for problem solving* would consist of vital and powerful links for the school with its client community. These links would have outcomes such as the following: client perceptions of problems would become motivators for action, pressure would be continuously felt on actors to be productive in client terms, clients and professionals would experience unity of purpose and style, bureaucracy would be accountable, etc.

Several different theoretical and empirical streams contribute to this outlook. Carlson (1965) noted that schools are "domesticated" organizations with guaranteed clientele and maintenance and thus are insulated from client pressures. Pincus (1974) similarly noted that because of their insulation schools don't have incentives for innovation. Implicit in these arguments is the reasoning that business organizations are better long term problem solvers than schools because they are subject to market forces.

*Up to here we have talked generally about capacity. We are, of course, primarily interested in something called capacity for problem solving. We will start using that entire phrase although we believe and discuss in the next chapter that problem solving is a weak term.

Gittell (1977) proposes "community control" as one response to this situation. If the community has power in the areas of teacher selection, curriculum selection, and policy making, then schools will no longer be insulated and will be forced to respond to their clients. Furthermore, this pressure is uniquely powerful because it comes from people (parents) who have a more personal stake in events than employees do. The voucher experiments at Alum Rock (Weiler, 1974) where parents could choose among options was another example of trying to modify this insulation through directly simulating a market economy.

Another consequence of this insulation of schools from the communities they serve has been the fact that school bureaucracies have been able to grow unchecked. As part of the efficiency movement of the early part of this century (Tyack, 1974), school systems centralized and "expertized" in hopes of taking schools out of the maelstrom of wanton political pressures. Strong bureaucracies have been establishing themselves. Some critics (e.g. Rogers, 1962) believe that these bureaucracies have become so ponderous and self-serving that they generally no longer serve as creative forces; they have generated structural characteristics of problem avoidance rather than problem solving. School boards have not always been very effective as the purported public check on the appropriateness of bureaucracy's actions when they are confronted with the complexity and the vested interests of the bureaucracy (e.g. see Peterson, 1976). Teachers' unions shaped in part by the school systems structure, have themselves become ponderous and limiting.

Another stream of thought which leads to some of the same conclusions emphasizes cultural rather than political issues. From this perspective the most salient reality about schools is their roles as institutions with responsibility for socializing the young. In an urban, multicultural situation this socialization purpose poses some difficulties because the goal of socialization is not clear. Are the schools to be set up to socialize students with mores and skills necessary for life in the mainstream culture? or for life in the family and subculture? or for life in both? (For more discussion on this perspective see Johnson, 1977).

Much work has been done recently on the fit between the culture of the school and the culture of the child and family. Getzels (1968) formulated a classic model which highlighted the possibility of discontinuity. Anthropologists have been identifying a multitude of factors which can contribute to clients' perceiving the school as strange and alien; for example, the language of school may not be the same as the language of the child's family, the expectations for forms of interpersonal behavior may be different (Ward, 1971; Cazden, 1966) the kinds of skills and styles of work rewarded may not be the ones cultivated in the subculture from which the child comes (Ward, 1971). All of these discontinuities carry the implicit message that schools are designed for socialization into the mainstream culture which is primarily middle class and white and not for socialization into the culture from which the child originates. The strengths that the child brings from having mastered the culture of the home are disregarded or belittled. The cultural traditions of the students' background find no home in the curriculum or activities of the school.

For some analysts (e.g. Dreeben, 1968), many of the qualities of schools identified as middle class and white are really necessitated by the realities of modern, complex industrial societies. If students are going to function effectively, it is inevitable that they learn these norms and styles of behavior required even if this leads to discontinuity with their past experiences. Other analysts (Fanon, 1967) feel, however, that there are many more options for life styles in complex societies and that the discontinuities are unnecessary. Indeed, the discontinuities are at the root of many of the problems of schools.

According to this view, those interested in understanding capacities for problem solving must look for those features of school settings which reduce the discontinuity. Cognitive frameworks, attitudes, structures, and processes which insure awareness and responsiveness of the school to the culture of clients are necessary for sustained problem solving. This may mean radically restructuring the fundamental nature of formal organizations. The Black church, for instance, is often proposed as one model (Nelsen, et al., 1971). Again, community control, community advocacy, or community accessibility are sometimes seen as the best ways to guarantee the connection.

For many analysts who view urban schools from these perspectives, the discontinuity is not just a benign oversight but rather part of a pattern of oppression, discrimination and cultural imperialism. The parents and students who the urban schools alledgedly serve are primarily the poor and minorities. It is possible to understand why these schools are

not quite right; they are designed to sift the cream of the lower classes and minorities while keeping the rest in a subjugated and enfeebled condition. Rosenfeld (1972) has shown how ghetto schools are factories for failure. Ogbu (1973) demonstrates the pervasive milieu created for subordinate minorities which leads to the negative outcomes of schooling and some of the writers in a volume edited by Wright (1970) explore how the education of Black students is a manifestation of the racist tendencies of the larger American society. Bowles and Gintis (1976) suggest that schools systematically work to maintain the stratification of society by benefiting and catering to the children of the relatively well-to-do and disregarding the children of the poor.

According to these views, the schools are viewed by those other than the poor as functioning essentially all right as long as the status quo is perpetuated. This perspective, emphasizing the school's stratification purpose, heightens the importance of the schools' political and cultural connections to the client communities. These connections are seen as essential if the schools are ever going genuinely to attend to problems as <u>perceived by the clients</u> for it is ultimately not seen to be in the interest of the majority to do so. Furthermore, it follows that there would be much resistance in bringing about changes which would make the schools genuinely responsive.

The Nature of Classroom Teaching as a Craft/Occupation*

For the analysts of the tradition emphasizing classroom teaching the most salient features of schools are the principal activities of the setting, the customary situations in which those activities take place, and the characteristics of the principal actors. The most important actors are usually seen as teachers and students (we will concentrate here primarily on teachers). The most important activities of the setting are supposed to be teaching and learning and the predominant situations are classrooms. From these perspectives the problems of schools derive from the dynamics of the nitty gritty daily realities of classroom teaching and from dysfunctional forms the occupation of teaching has assumed. The most important features for supporting and encouraging sustained improvement of schools are those which nurture teachers in their attempt to refine the daily realities of their classrooms. Also important are those features which introduce self-improving patterns into the structure of teaching as an occupation. Below we present several themes which those working in this tradition have identified as important in understanding schools and teaching and which we see as being important to understanding what supports on-going problem solving. For more on this theoretical orientation see Baldwin (1977) and Lenoir (1977). For a related treatment of principals, see Hyde (1977).

*In this section we will concentrate on the potential benefits of the "professionalism" of teachers. There is a radically different view possible. Professionalism can quickly become elitism and the struggle for status can become an obstruction to innovation and communication with clients. One must be careful of assuming that focus on teaching as an occupation always leads to beneficial outcomes.

The Complexity of Teaching in School/Classroom Settings. The quest to find simple explanations of teaching effectiveness has been constantly frustrated. Programs to compare teaching methods have consistently resulted in ambiguous contradicting results (e.g. Rosenshine & Furst, 1973; Stephens, 1967). Programs to assess the impact of teacher characteristics have similarly lead to inclusive results (Getzels & Jackson 1963). Multitudes of relevant variables have been proposed (Biddle & Good, 1975; Tikunoff, et al., 1975). Qualitative studies of classroom activities (e.g. Jackson, 1968; Smith & Geoffrey, 1968) have characterized teaching as extremely complex where the teacher must simultaneously orchestrate several streams of activity and take on such roles as "supply sergeant", "time keeper", "traffic cop", "ring master", as well as more commonly thought of roles. The teacher after all must deal with all of the following: cognitive, social, and affective development of children, instructional and socialization strategies, individual differences, the group realities of the classroom, the bureaucratic and organizational realities of the school, demographic realities of the community, etc.

Problem solving in this kind of a context is extremely complex. The process must be such that it does not disregard the interconnectedness of classroom events and the wildly diverse functions teachers must serve. It must also be such that it is firmly rooted in the learning and human development goals that are the raison d' etre of teaching. Thus, structures that would support sustained improvement must be powerful enough to allow people to manipulate complex classroom situations.

Some approaches try to introduce helpers into a setting as a way of guaranteeing on-going problem solving. This tradition would warn that these helpers must be fully sensitive to life in classrooms if they are to be effective. Consciousness of what classrooms are like must infuse discussions about problems and solutions.

Teaching as Craft/Undeveloped Technology. Both Lortie (1975) and Dreeben (1970) have noted that teaching lacks a well defined technology or art. This means that there are no powerful, agreed upon canons of good and effective practice. In part this lack may come from the complexity described above. It also comes from the difficulty of unambiguously assessing the effects of teaching activities - that is some of the effects aimed for do not manifest themselves for years, some are more or less impossible to assess in a standardized way, and the multiple causes of behavior decreases the assurance with which one can link results with teaching.

The lack of an easily identified and codified "technology of teaching" and understanding of learning in classrooms has certain implications for thinking about capacities for problem solving. More and more analysts are tending to think of teaching as a craft rather than as a skilled trade or exact science (see Cohen, 1977). Thus, the kind of criteria used in identifying problems and diagnosing situations need to be those more common in crafts than sciences - e.g. complex, holistic, refined sensibility approaches described by terms such as "connoiseurship" (Eisner, 1977). The relevance of outside research and development which is not within the craft mode is questioned by those who see teaching as a craft. Similarly,

the forms of prescription for improvement cannot be exact step-by-step specifications. According to this view, features of setting which will lead to sustained improvement must be such that they encourage "craft person-like" interactions.

Another implication of the level of technology of teaching is a pervasive attitude of uncertainty among teachers about the very possibility of sustained improvement. The lack of clear guidelines about what constitutes good teaching and the ambiguity about what are the necessary steps to become a good teacher combine to form an inclement context in which to work in a sustained way toward improvement. Features which constitute a capacity for problem solving must powerfully countervail against these attitudes - perhaps by establishing new more craft oriented standards and forms of interaction.

Isolation of Teachers, Colleague Relations. Jackson (1968) describes the teachers situation as lonely isolation generally without adult comradeship for most of the day. Lortie notes the "cellular" organization of schools wherein each classroom is seen as a replaceable, interchangable unit and each teacher works primarily alone. These patterns have important implications for the ways teachers view interaction with each other and for the ways they view the possibility of help in on-going problem solving.

Teachers have come to expect and depend on the isolated autonomy of their classrooms. Interactions with students are the most likely sources of gratification and thus much is invested in what goes on with them. The

school is subject to so many forces, e.g. fiscal, administrative, that the teachers seek refuge in their classrooms where they have relative control, as one seeks an island in a rough sea. As House (1974) notes these realities create major forces against teachers getting involved in riskier activities outside their control. Lortie (1975) notes that when asked in what kind of activities they want to spend more time, they usually emphasize individual classroom oriented activities rather than organizational activities. This tendency greatly limits what forms sustained improvement activities can take.

A related pressure toward isolation derives from career socialization and advancement patterns in teaching. Generally, there are no prolonged apprenticeships. Except for courses and a brief student teaching experience, new teachers have little experience when they are thrown in with full schedules and expected to sink or swim. There are no traditions of peer assistance and monitoring for the new recruit as there are in other professions. Even the administration's supervision tends to be attenuated and not very helpful (Dreeben, 1970). There is no pattern of recognition for advancement in the career or increasing competence. There are few systematic ways for identifying "master teachers" and providing for their assisting less experienced colleagues.

According to this view the patterns of an occupation which allow for systematic training, socialization, joint standard setting and monitoring and competency recognition are important features for on-going problem solving and improvement of professional activities. Similarly,

those features of a setting which allow peers to act as resources for each other in refining and perfecting their craft are important to sustained improvement. Furthermore, these features need to be especially appropriate to teaching, for example, peer interactions need to be a genuinely integrated part of the teaching process (given the craft nature of teaching the peers need a chance to share and observe actual teaching practice). The reward for venturing outside the classroom has to be sufficiently great to warrant the risk.

Status of Teachers - Teachers Power. Teaching has a shadowed reputation as a profession among other professions. It rarely had the status of other professions. Historically, it tended to be lower paid than other professions and relegated to women (Lortie, 1975). It tended to attract upwardly mobile members of the lower class and thus be suspect from the perspective of the middle class (Charters, 1963). This history combined with the lack of an esoteric tradition leads the public to doubt the validity of teaching as a profession.

One place where this doubt may manifest itself is in the ambivalent attitudes about how teaching should be conceived and supervised. There is a perennial debate about whether schools should be organized as hierarchical bureaucratic organizations with supervisors responsible for quality control or as a professional organization with peers responsible (Bidwell, 1965).

These status insecurities and this ambiguity about the appropriateness of bureaucracy combine to work against sustained improvement. Teachers are treated simultaneously as professionals and functionaries; they are told they are responsible for what happens and at the same time put in situations where they can do little. They are denied recognition of the professional nature of their practice. When one is led to doubt their professional status, there is small wonder that they do not take a professional approach to on-going problem solving.

In this view, the most important features of a setting are those which earn for teachers self-respect and respect by those outside the profession. This respect is an important prerequisite for active, creative problem solving on the part of teachers. Features described in previous sections which encourage professional sharing and the development of a shared body of knowledge about the practice are one way to build the respect. Teacher centers and teacher advisories are examples of this approach. (Bussis, et al., 1976; DeVaney & Thorn, 1975). Another approach is a more aggressive one wherein teachers demand roles in school governance or in some limited part of policy making - e.g. control over professional development. Some of the activity of teachers unions are demanding professional salary scales and certain contract provisions which would enable professionals to function (e.g. preparation periods) can also be seen as attempts to build this structure of respect.

For this school of thought, then, what is necessary for the sustained

improvement of schools is different from what is necessary for the sustained improvement of some other kinds of organization. The goals of teaching, the ecological realities of classrooms and schools, the traditions of teaching as an occupation all combine to shape in a unique way the frames of reference and patterns of interactions of school participants. The features that will support sustained problem solving therefore need to be uniquely in tune with these realities.

Study of Organization

The study of schools as formal organizations is another valuable tradition. From this perspective the most salient features of the school setting derive from the fact that school settings are collectivities of human beings. The social fact of people being linked together causes their assemblage to take on a life of its own. Often these entitities are thought of as organic beings or natural systems (e.g. Buckley, 1967; Von Bertalanffy, 1950).

In modern societies, the collectivities which have certain purposes are called organizations. Those who work within this tradition claim that by their very nature organizations must deal with certain critical issues such as what roles are defined for people, how is power distributed, and what will be the norms for interpersonal interaction and that generalizations can be made about how organizations handle these issues.

The categories of variables organizational researchers have identified as potentially important and useful are wide ranging; (below we select some commonly studied variables that we believe are important in

relation to capacities for problem solving). What is most important to realize, however, is that for those working in this tradition, organizational imperatives are the most powerful determinants of people's behavior while in the organization and those most worth studying and manipulating in search of improvement.

Organizational theorists have debated for many years what should be the main thrust in conceptualizing organizations. Weber (1946) emphasized the rationalistic, the hierarchical, and the division of labor. Organizations were especially contrived modern collectivities designed to accomplish certain purposes, within design patterns. March & Simon (1958) continued in this tradition and emphasized decision making at all levels of the organization. Other theorists (e.g. Gouldner, 1954; Merton, 1968; and Schmuck and Runkel, 1972) emphasize the need to understand the non-rational aspects of life in organizations in additions to the rational. Etzioni (1965) points out that organizations have both instrumental and expressive functioning. In later work March and colleagues (Cohen,et al., 1972) have recognized the non-rational and even anti-rational functioning of organizations. Generally there is now common recognition that organizations need to be analyzed for their formal and informal functioning although debate continues on how much organizations ought to strive toward rational functioning.

A capacity for problem solving for students of organizations depends mostly on how organizations organize themselves. Certain organizational structures, patterns of behavior, and attitudes are more likely than others

to lead to the organization solving its problems efficiently, effectively and gratifyingly for participants. Research and theory suggests that the following organizational topics are important for organizational problem solving:

a. Decision Making; b. Roles and Norms; c. Systematic Diagnosis and Planning; d. Knowledge Utilization; e. Organizational Change; f. Creation of New Settings.

Decision Making. Originally the predominant view about how to make organizations effective in solving their problems stressed strong formal leaders and a clear hierarchical structure of communication and accountability underlying them (e.g. Barnard, 1968). Presumably the head of the organization would have the most informed overview of the situations confronting the organization and of organizational potentials and the power to initiate and implement needed actions.

Many theorists and researchers (e.g. Argyris, 1970; Katz and Kahn, 1966; Likert, 1961, 1967; Lorsch & Morse, 1974; McGregor, 1960) have questioned this view. They pointed out that the hierarchical structure with leaders at the top is not necessarily the most effective structure for organizational problem solving. The leaders did not necessarily have the most accurate information (Bennis, 1966) lower echelon participants evolved strong informal cultures that limited the leaders' real ability to control action and win commitment. Finally, top down structures often extract too high a cost in worker morale and satisfaction and thus result in more problems rather than less. "Democratic", "dispersed" or "participatory"

decision making is proposed as the kind of structure that in the long run leads to the organization's solving its problems. There is by no means unanimity on this view but it is a popular way to look at decision making in organizations (Gross, et al., 1971; Leavitt, 1965).

For some theorists the how is even more important than the who. March and his colleagues (Cohen, et al., 1972) note that organizations function in a context of such ambiguity of preferences and goals, such unclear combinations of procedures, and such fluid participation that decisions happen rather than being made and that they have a problematical connection to learning from previous experience and the subsequent actions.

Within these traditions, then, of organizational studies, decision making (and the related issues of leadership, power and influence) are crucial variables. Some patterns of decision making are presumably more likely than others to support the processes of problem solving by bringing more information to bear on decisions, by increasing the commitment of participants to action, by stimulating widespread creativity, etc. (French & Bell, 1973).

One place where these issues are central is in analysis of administrators' roles. Since the principal and his/her administrative team are formally designated as decision makers, program initiators and program monitors in school settings, the ways their roles are conceptualized is key. Is the principal an administrator, an educational leader or facilitator of staff? Is the basis of their power legitimate or expert (French & Raven, 1959; Hernstein, Callahan, et al., 1968)? The way this question

is answered has major implications for the patterns of decision making that are established. For example, the principal who is seen as operating from a base of expert power can exert a different kind of influence on problem solving activities than one who operates from a base of coercive power. For more on the principals' role see Hyde, (1977), Lenoir (1977) and Lynch & Lenoir (1977).

This issue of decision making is also implicitly important in the two previous theoretical traditions discussed. Both the community control proponents and the teacher power proponents believe that schools will be more successful in problem solving if the decision making patterns are changed to include who they see as crucial groups.

Roles and Norms. Roles and norms are the names given to two elements of the mental set presumed to underlie life in organizations. Roles are the parts that people are expected to play - they are the sets of expectations people have for themselves and for others. For some theorists (e.g. Parsons and Shils, 1951) the existence of role structures is at the heart of the notion of formal organizations. The role exists independent of the particular people who fill it and thus exerts an influence on behavior that transcends personality. Certainly there is variation in the way individuals fill their roles and in what they expect of others, but the role expectations themselves carry much power (Katz & Kahn, 1966; Schmuck & Runkel, 1972).

The role structure is extremely important in determining how the organizations goes about its work and how it solves its problems.

Presumably some patterns of roles more than others would help shape participants actions in a way that leads to problem solving. The creation of kinds of roles and the range of behaviors expected from certain roles can be negotiated by organizational participants and thus can be the basis of important differences between organizations. The role structure can be an element in an organizational capacity for problem solving.

Here is one of the most important places where this organizational tradition differs from the two traditions discussed previously. For the organizational theorist the organization itself has the major influence over behavior. For the person who emphasizes teaching as a profession the larger culture of teaching and the structure of the work has an influence which may supercede local organizational variations. Similarly, for the social cultural theorists the social role of minority group member or community member may have much more impact than organizationally - specific role definitions.

Several concerns about roles seem especially pertinent to this discussion. In the previous section we discussed the role of the principal in relation to decision making. Depending on how the role of the leader is defined there is a reciprocal role that must be defined for other organizational participants. In those approaches which emphasize dispersed decision making and problem solving activity, teachers and other organizational participants must expand their roles to incorporate new behaviors if the new approaches are to function. These participants need to see their roles as including responsibility for organizational problem solving

in addition to customary duties. This change is difficult for teachers because there is little in the training or socialization of teachers or in the traditional expectations of the role that prepare them for this change. In fact, some research has found that teachers seek to stay uninvolved in organization wide issues (Bridges, 1964). Getting students and parents to expand the way they see their roles to include activities related to organizational problem solving is even more difficult because there is so little tradition for these kinds of role definitions (Center for New Schools, 1972).

Another concern about roles which support organizational problem solving focuses on the locus of relevant activities. One common analysis of schools notes that they do not have a very differentiated role structure. According to this view schools would be more efficient if they had specialized roles who had responsibility for coordinating functions such as problem identification or knowledge utilization. Sieber et al. (1972) and Havelock (1969) propose the creation of new roles such as "knowledge brokers", "change agents", "resource consultants", "trainers". Runkel, Wyant and Bell (1975) call for cadres of internal change agents. Center for New Schools (Wilson, S., 1977b) has explored the use of internal ethnographic formative evaluators. These specialized roles serve as a focus for the organization on needed functions and allow the incumbents to develop the necessary specialized skills and attitudes. The structures which support new roles are also important - e.g. institutionalized reciprocal roles, budget design, specialized resources, rules regulations.

Norms are a related characteristic of organizations. Norms are the standards shared by participants to which all are expected to conform and which are supported with positive and negative sanctions. Role expectations can be viewed as a subset of norms - i.e. in that those who hold a certain role have a range of behaviors that are expected. Norms, however, often transcend particular roles. That is, everyone in the organization is expected to live up to certain standards. Some kinds of norms presumably support organizational problem solving more than others. Similarly, some patterns of making sure participants live up to norms will result more than others in a more effective organizational activity.

For many organizational theorists roles and norms are the key determinants of the nature of the organizations. They are the internalized mental guides participants have for the behaviors of themselves and their fellows. They enable a collectivity to exist and are part of the identity that transcends particular participants. Role expectations and norms are passed on to new participants. Thus they are good candidates for being elements of a long term organizational capacity for problem solving and for being focuses for those hoping to build capacities. (Argyris, 1970; Schein, 1969).

Systematic Diagnosis and Planning. Organizations evolve customary patterns of carrying out certain functions. The functions of diagnosis and planning are extremely important if an organization is going to solve its problems in a sustained fashion. Those who work in this tradition make the judgment that some patterns are more likely to be productive than others.

Schools are notorious for lacking systematic planning traditions. What is necessary for building a capacity for problem solving is for participants to become committed to being systematic and to learn the necessary skills. There is, of course, considerable variety in how this diagnosis and planning is conceptualized.

Some believe that the planning can best be done in a centralized function. Decision makers need to learn particular strategies such as PPBS (Knezevich, 1973), cost-benefit analysis (Carpenter & Haggart, 1970; Fisher, 1964) or management by objectives (Lewis, 1974). Once they have learned these techniques and set up the relevant support and information systems, then planning will be more effective and result in maximizing the solution of problems.

Another tradition emphasizes the political aspect of life in organizations and the value of conflict (e.g. Coser, 1956; Lutz and Iannacconne, 1969). In this view there are a multitude of interest groups in organizations with different values, goals, and perspectives. What the organization actually does results from bargaining and negotiation among these groups. People's commitments and sense of constraints are important ingredients (Gouldner, 1954). Planning is not just a matter of selecting the most rational way to achieve some goal. Systematic here means some kind of pattern where the conflict and bargaining is not random but rather results in resolutions that move the organization in the desired directions as for example in a Hegelian dialectic or a market economy of ideas and interests. Negotiation between interest groups is what is necessary for optimizing results.

A third tradition emphasizes collaborative problem solving (e.g. Bennis, 1966; Schmuck & Miles, 1971; Schmuck & Runkel, 1972; Thelen, 1963, 1967). All of these approaches emphasize a series of activities that are necessary if an organization is going to solve problems in an on-going fashion. The activities usually contain some variants of the following: problem sensing, diagnosis, analysis, prioritization, goal setting, search for outside information, action design, implementation, evaluation, redesign. These theorists recognize that the stages do not necessarily proceed sequentially but they claim that a pattern of engaging in most of these activities is a prerequisite for sustained problem solving (Mintzberg, 1976).

They also emphasize the importance of widespread participation in these processes. They recognize the irrational and "political" aspects of life in organizations and thus the interpersonal dynamics of work groups. They recognize the need for information to flow upwards and sidewards in addition to downwards (Bennis, 1966). Thus, they see an organizational capacity for problem solving residing in widespread commitment to engage in systematic steps, in the widespread skills to perform the activities, and in widespread interpersonal work skills and norms (Beckhard, 1969).

Knowledge Utilization. Open systems models emphasize the influence of the environment on organizational functioning. One extremely important way the environment can make an impact is in the information it can provide about new techniques, new skills, and new ways of seeing the

world. For some theorists the organization's openness to new knowledge and ability in incorporating the information are key aspects of a capacity for problem solving (e.g. Havelock, 1969; Schmuck, et al., 1977).

Those working in the organizational tradition ask what features of the setting lead to effective and appropriate use of new information. People concerned with organizational development (e.g. Schmuck and Runkel, 1972) would ask what role structures are most powerful in creating a focus for screening new information and for internal dissemination? What norms must be established to lead participants to value new information and to see it as relevant to their interests? What processes need to be undergone to insure that the information is truly user oriented (Fullan, 1972) and to allow mutual adaptation to go on (Berman & McLaughlin, 1975).

Other theorists note other aspects of organizational functioning that influence whether information is deemed useful. House (1974) analyses the incentives and lack of incentives determining whether organizational participants will risk deviating from what they know. Sieber (1976) describes functions the use of information serve besides improving the school-e.g. the legitimization of current plans, mollifying critics, justification of failure, status conferral, and ego enhancement.

There are other traditions of research about knowledge utilization besides those emphasizing organizational processes - for instance, research, development dissemination and social interaction (Havelock,

1969). For a fuller review of the literature on knowledge utilization see Meara (1977).

Network theory (Bott, 1971; Mitchell, 1969) is another potentially useful body of theory in understanding how new information is used or not used. Both external and internal networks are important. Participants in organizations have multitudes of personal ties with people outside the organization. The nature of these links can be important in determining what kind of information enters and via what pathways (House, 1974). Internal networks, or informal subcultures, are important because they determine who talks to and influences whom. Thus, they have impact on what information will be considered and used (Rogers, 1962; Center for New Schools, 1972). Presumably some patterns of networks are more productive than others for supporting sustained improvement through use of new information.

Organizational Change. There is an enormous tradition of research and theory on innovation in education and the dynamics of planned change (e.g. Bennis, Benne & Chin, 1969; Miles, 1964). Indeed the concern with knowledge utilization is a subpart of that area because most people concerned with knowledge utilization are looking at the role of new knowledge in educational improvement. Our purpose here is not to review the traditions relevant to understanding innovation and change. For that, the reader should refer to DTA papers by the Chicago and Oakland Regions. We do want, however, to clarify some conceptual relationships between the concepts of educational innovation and change and capacities for problem solving.

All the nine sites we studied structurally consisted of someone trying to bring about change in schools (see methodological appendix). In this respect they could all be looked at within the traditions of planned change. The nature of the changes being worked on, however, differentiates these projects somewhat from what is customarily meant by innovations in education. The intervenors were intending to fundamentally modify the nature of the school settings rather than to introduce some particular new program or innovation. Presumably the structural changes could be called innovations, but one must wonder if the process of trying to change schools by building their capacities for problem solving is different from the process of trying to change schools by introducing new programs.

Change and innovations are relevant to our concern with capacity in yet another way. Innovation, while not synonymous with problem solving, seems like an important element of it. In some situations problem solving can mean maintaining good programs and structures and even resisting proposed changes.

More often, however, it means changing processes and structures where needed or adopting new programs if they serve participant needs. Thus, the literature on change has an important relationship to our concern with capacity. Even though it does not comprehensively cover our interests, that literature offers insights into what makes organizations resistant to change in a dysfunctional way and what helps new programs genuinely to take hold. Presumably, an organization that was

creatively engaged in problem solving would be flexibly pursuing new directions where needed and hence the literature on change would help explain what enabled settings to do that. We must be interested, however, in more than the innovation process. We seek to understand what features of settings create a context in which improvement is pursued through attention to traditional procedures and structures as well as through innovative changes.

Creation of New Settings. One additional tradition of organizational research which has risen to prominence recently is that concerned with the creation of new settings. In the sixties many critics of America's urban schools (e.g. Bremer, et al., 1972) concluded that the solution of the problems confronting the schools required creation of new schools and new innovative programs. This conclusion was based on the assessment that existing school organizations had entrenched traditions and established patterns of behavior which prevented solution of problems. Furthermore, life in organizations was so interconnected that piecemeal changes seemed doomed to failure. For them the creation of new schools seemed like a powerful technique for solving problems. The ability clearly to specify goals and purposes, the ability to recruit, select and socialize staff, the ability to build procedures to fit needs, all promised to generate a situation in which problems could be solved and educational goals achieved. Furthermore, although few used the rhetoric, most assumed that the new organizations would overcome the stagnancy, low morale, and unresponsiveness of traditional schools and hence have capacities for sustained improvement.

The alternative schools had mixed results. The founders' strategies of establishing new schools did indeed manage to solve some problems and to create a potential for solving some kinds of future problems. Some traditional problems of schools, however, reappeared even in these new settings (Center for New Schools, 1972). Furthermore, the participants in these schools often discovered that they had new kinds of problems born of their newness and their high hopes (e.g. see Smith and Keith, 1971; Sarason, 1972). Also, the founders discovered that their activities and even their successes did not have the impact on the rest of the school system that they hoped for.

This tradition informs our investigation of capacities for problem solving in several ways. It forces us to consider their analysis of organizational modification and to ask can the establishment of capacities be effected without the setting up of new organizations. It also helps us to understand the widespread impulse to create new settings as a method of solving problems and building capacities to solve future problems. Furthermore, for those sites where new settings have been created, it helps us to understand their organizational processes.

Summary. Research and theory about organizations offers many useful perspectives for looking at capacities for problem solving. The concept of capacity for problem solving even has its origins in this tradition. This tradition is especially appealing for those interested in improving schools because it deals with variables that are more susceptible to manipulation than those proposed by the societal, cultural

or occupational traditions. For example, it is easier to think about creating new norms and patterns of interaction within an organization than it is to think about creating new societal attitudes about minorities or about an occupation. We believe the organizational perspective is an important, useful one and should be used in the design of interventions. At the same time, however, we believe the other persepctives we have discussed are also valid and eventhough they are less frequently linked to concern about capacities for problem solving, we believe they should be exploited for the insights they provide and the direction they give to intervention design.

Features of Settings

In this chapter we have shown that capacities of school settings are hard to work with directly. Capacity is a presumed quality or trait of a setting that one infers from sequences of events and other evidence such as participant testimonal. We have suggested that there are more readily observed features of school settings which seem to support the sequences of events that leads one to conclude a setting has a capacity. These features are a more realistic focus for understanding what leads to sustained improvement and for actually working to establish a capacity.

In the last section, we discuss features of settings that the various theoretical traditions would identify as important structural supports for school capacities for problem solving. We now propose a classification scheme for features of settings which will transcend particular theoretical traditions. We propose a scheme composed of very broad classes of features which will allow us to share analysis of what

we have learned from our nine sites. The categories are also broad enough so that they can encompass the features proposed by different theoretical traditions and discovered in diverse sites. Each tradition suggests different features as important candidates within each category.

We arrived at these classes through an inductive sorting of features of settings identified by site researchers and research coordinators (See methodological appendix for more description of processes used in qualitative analysis.) We make no rash claims about the innovativeness of this scheme, rather we merely contend it does offer a convenient way to categorize observed features of settings. It is roughly based on the common notions about human social life which make the distinction between sentiments and actions (e.g., Homans, 1950). We believe that both what is in peoples heads and what they do are important to sustained problem solving. The categories are: 1) cognitive frameworks, 2) motivations and incentives, 3) internal organizational patterns and 4) external organizational patterns. Below we present a very brief description of what we mean by these categories. Fuller elaborations of these with data from the studied sites and synthesis of different theoretical perspectives is the focus of future cross-site analysis papers from the Documentation Team.

1. Shared Cognitive Frameworks: By this we mean the interpretive schemes people use to perceive and to understand their world. What categories do people use to explain their actions and actions of others? How do they identify situations as problems? How does the way they see the world limit what they will consider as possible solutions? We be-

lieve that cognitive frameworks are shared by communities of human beings and are influential determinants of group life and specifically of problem identification and problem solving.

2. Motivations and Incentives: By this we mean what causes people to act or not to act. What affective orientations toward particular actions exist? What are the reasons people give for what they do and don't do? We believe that motivations and perceived incentives are a shared social feature of settings and are relevant to problem solving activity.

3. Internal Organizational Patterns: By this we mean the processes and structures which are characteristic of a setting. What patterns of interaction prevail? What are the regular ways people in the setting communicate, work together, exercise power over each other, establish expectations for each other, plan, decide among options, etc. What kinds of structures do they establish to help them carry out their work? What kinds of skills are prerequisites to functioning in the setting. Specifically, what internal patterns seem to be a prerequisite to problem solving or improvement.

4. External Organizational Patterns: To a certain extent it is artificial to make a distinction between internal and external patterns. One's theoretical orientation determines whether the teachers, administrators and students should be thought of as the school setting or whether school setting should include the parents or larger community. For the sake of convenience we have called patterns of activities which include anyone besides teachers, students and building administrators "external".

By external organizational patterns we mean the process and structures which link the school to its environment - i.e., parents, the community, the school district, and outside sources of information, help or money. What patterns seem to facilitate the schools ability to solve problems?

These classes of features are good places to look if one is trying to understand why some school settings seem to be relatively persistent and proficient over time at attempting to solve their problems or at moving toward improvement - i.e., have a "capacity" for problem solving. Our documentation of the nine sites has generated many ideas about what features are integral to sustained improvement and how these features can be established. We invite the reader to read DTA papers which analyze these features.

CHAPTER III: THE CONCEPT OF PROBLEM SOLVING

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THE CONCEPT OF PROBLEM SOLVING

Introduction

In this chapter we continue our process of exploring the usefulness of the paradigm which emphasizes building local capacities for problem solving rather than introducing educational innovations as a way to improve urban schools. We focus here on the problem solving part of the paradigm.

Problem solving sounds like a relatively clear cut category of actions that accomplishes good things. Articles and books are written about the process. There are established academic traditions revolving around personal and organizational problem solving. One unit of the National Institute of Education is even dedicated to it. Getting rid of those nasty things called problems is seen as certainly a worthwhile concern.

We have discovered, however, that there is a major confusion surrounding the use of the concept. On the one hand, problem solving has been used very generally to describe the process of trying to improve schools; on the other hand problem solving has been used to describe a particular set of processes for improving schools - i.e. those which emphasize formal attention to present states, target states, and planning for getting from one to the other.

This dual meaning can cause trouble. Our documentation* of real school settings suggests that problem solving in the wider meaning of the word is not a clear cut category of actions. There are many processes besides formal problem solving for addressing the improvement of schools. Furthermore, using problem solving as the name for these general processes can lead analysts and

* We have used a research approach which emphasizes grounded theory generation. We believe that one of the major benefits of such an approach is the way it forces the analyst to critically examine and refine the concepts he/she is using. We believe that this chapter demonstrates the value of such a refinement process. For more on our methodology see the appendix.

interveners to shape their conceptualization in such a way as to be out of touch with how people in schools see their actions and to neglect other important ways of visualizing sustained school improvement. Problem solving as a concept is full of pitfalls.

In this chapter we offer a map of those pitfalls. We note that problems do not exist until someone, using their values as a basis defines a situation as such. Thus, the exact same situations are often problems to some people and not to others. Those who try to use problem solving as a paradigm sometimes forget this indefiniteness and act as though problems were real objects. Similarly this dependency of problems on people definitions leads to a situation where a great variety of things could potentially be called problems - from the door knob doesn't work to the existence of racism in a society. Problem solving gives the illusion of being a discrete process; actually it may be very different processes depending on the class of problems being considered.

We also note the particular social psychological bias of problem solving as a concept. There are a great many ways of conceptualizing school improvement besides problem solving - e.g. perfection of visions or maintaining a program against a background of decaying resources and support. There is a danger that concentration on formal problem solving can lead one to depreciate and neglect these other kinds of improvement. Similarly, we suggest that phenomenologically problem and solutions blend into each other in a way that those working with a formal problem solving model fail to recognize. Finally we note that concentration on the process of problem solving can lead one to underestimate the crucialness of sound solutions in the final solution of problems.

We conclude that these difficulties limit the usefulness of problem solving as a paradigm. We find the gist of the paradigm appealing - namely that what is necessary for school improvement are processes for addressing issues over

time rather than one shot implementations. The use of problem solving as the central conceptualization is unsatisfactory, however, because it skirts around many ambiguities and because it does not convey the variety of approaches meant. We have searched for other terms and have not found an appropriate one. School improvement comes closest but it shares some of the same difficulties as problem solving - e.g. one person's improvement can be another person's demolition. We suggest that either problem solving or school improvement could be used as long as the user is aware of and makes clear the ambiguities. We suspect that school improvement may be a better use but we need more experience with its use before we can be certain.

Problems As Definitions of Situations

What is a problem? The language surrounding the use of the word leads people to think of it as a concrete thing that has an independent existence like a tree. Usually talk about problems implies that they exist "out there", and can be identified, worked on, solved, etc. In reality a problem is actually a judgement - it is a statement about a person's orientation to a situation rather than some concrete class of situation.

A problem, then, is a situation that someone feels is not right, is not as it ought to be from that person's perspective. A problem for the large part does not exist until a person or a group of people have assigned the meaning or as the symbolic interactionists would say (Blumer, 1969) until they have defined the situation that way - i.e. until they have called it a problem.

This meaning assignment process is even more complicated in school/education settings than if many other kinds of settings. Since an important part of the meaning of problems is the identification of what ought to be, the realm of values plays an important role. Thus, the nature of what a person sees as a problem

follows from the nature of what one believes to be the goals of the educational process and of what one's values are about how the process should look. Certain facts about goals and the goal setting process in education therefore have implications for problem solving:

- Goals in education are notoriously elusive. While there appears to be agreement on the most global level, there is often fundamental disagreement on the operational levels. The goals change with people, values, and with the conditions of the times. The goals are certainly less clear than in other human enterprises, such as agriculture or medicine and hence problem identification is less clear cut.

- Rational goal determination seems not to fit well with the educational enterprise. People often have ill defined senses of appropriate and less appropriate directions. Complex combinations of experience, emotions, morals, and goals combine in judgements about particular situations, (e.g. see Jackson, 1968, for a description of the organic process teachers use to make judgements about teaching). These levels of meaning which are involved in thinking about goals result in ambiguous basis for agreement in groups about problems and an unclear relationship between expressed goals and day to day activities.

- Goals in education are salient for people. Education is the socialization of the young for the continuation of things that are important to people. People cannot just let it slide like they can less important determinations. This means that problem identification must have people's basic agreement more than other processes.

- Educational goal setting is a political process. Public monies and energies must be allocated. The patterns of political power in our society directly influence whose goals (and hence whose determinations of problems) will have ascendancy.

The relationship between problems and goals means that the clearer and more sophisticated participants are about their goals and about interpreting events in light of those goals, the more likely they will be to successfully engage in problem solving. A clear consciousness about goals can even lead people to see or frame problems where others do not. The following incidents illustrate this phenomenon.

- A parent was describing an early encounter with the schools. She noted that almost all the students in a class were white, even though the school had a mixed population. She discovered that the school had tracking based primarily on test aptitude. She noted

that she didn't want her daughter participating in that kind of set-up (Responsive Education Project-8).*

Presumably, other parents, teachers, and administrators observed these same situations and did not perceive a problem; indeed they might have seen this state of affairs as a solution to the problem of challenge to "talented" students in a heterogeneous situation.

- An active parent discovered that a principal was using Title I funds for whatever purposes he chose. The parent called attention to the Title I guidelines which specify parent advisory board participation in those kinds of decisions (Cultural Continuity Project - 4).

Again the nature of the "problem" varied with the perspective of the person observing the situation. To the principal the problem might have been seen as federal or parental interference in his running the school. To the parent, the problem was the principal's violation of these rules and more generally the school's lack of recognition of the importance of parent participation in educational decisions. Many parents presumably would not have recognized this principal's behavior as a problem. The active parents had worked, however, to a point that behavior had meanings to them that it didn't to others.

- A principal talked to a group of teachers about a new program he wanted to introduce into the school. The program would bring a lot of new material and human resources into the school. The teachers saw this program as a problem because of its "take out" quality which would interrupt the organic learning communities they were trying to build and which they believed would result in the most effective education (Responsive Education Project - 8).

Again, to some observers this program probably did not look like a problem. To this group of teachers however, it was a problem. They shared a common way of viewing the ideal educational process and this helped them to interpret the world,

* We present the anecdotes in this chapter merely for illusrative purposes. A forthcoming paper on cognitive frameworks will present and analyze these and related events in more detail. Parentheses contain pseudonyms and code numbers for the projects from which the anecdote was drawn - see methodology appendix for description of sites.

recognize problems, and to take action. Problem definition is intimately related to meaning/value structures. "Consciousness" is important in people's ability/propensity to identify problems. Problems are created by human communities of meanings. For some of the people in our sites this is one of the most important aspects of problem solving.

The differences in meaning structures and resultant differences in how problems get named have especially important implications when considering the TAG's attempt to have impact on the schools. Often in the nine sites we studied, the TAGs conceived of some situations as problems; teachers, students, and parents did not.* For more on the discrepancy in problem perception see Johnson, (1977) and Hyde, (1977).

Everything is Potentially a Problem

To a certain extent it is elusive to speak of problems as a limited set of human experiences. If one defines a problem as a discrepancy between what is and what ought to be - as a negatively evaluated situation then a great many human experiences pertain. In fact, those definitions of man which emphasize his ability to imagine, imply problem creation as one very basic human quality - i.e. man's ability to create images of the future enables him to recognize discrepancies. Waking life is full of perceptions that can be called problems.

The fact that a great many human experiences can be categorized as problems makes use of the terms problem and problem solving potentially very confusing. People talking about problems can be talking about qualitatively different classes of situations. Actions necessary to solve one kind of problem

* This discrepancy between TAG perceived problems and participant perceived problems may have had major impact on DTA's effectiveness in meeting its knowledge utilization mandate. Much of our information focused on the TAG's activities to work on what they perceived as problems. Teachers in our network schools sometimes found our information not interesting or useful because it did not give them information about the problems they were most interested in.

can be of a radically different order than those necessary to solve other kinds and yet all these actions are lumped together as problem solving.

People differ in the degree they consider a problem rare or unusual. The term problems can refer only to crises (e.g. the school board is going to close down the school). The term problem has been used by some organizational theorists to mean everything an organization does to exist (e.g. how the organization routinely handles internal communication). The team has been used to refer to minor wrinkles in organizational procedures (e.g. how the teachers can get better coffee in the lounge). They have been used by educational psychologists to mean every decision a teacher makes - (e.g. how to keep the students who are done with their work quiet) and most cognitive activities of students - (e.g. how to add fractions). One wonders what isn't a problem.

As a resource for this discussion of the concepts of problem solving and for later discussions, we present below a list of problems indicated by people in the various sites we studied. The problems are extracted from our reading of the case studies and a sample of FDF's from six consecutive months. Because of inevitable variations among site researchers, we do not claim that the list is exhaustive or systematic: We do think it is useful, however, for clarifying the wide ranging potential meanings of problem solving and for giving some concreteness to these terms. For the sake of clarity we have adopted a very simple category system for displaying the problems.* Those working to help schools develop problem solving capacities must come to terms with the realities of how people see their problems and the varieties of actions needed to solve different problems. We need to understand what features of settings enable different kinds of problems to be solved.

* Other papers from DTA will be developing other category systems (for example see Hyde, 1977 and Johnson, 1977).

Physical Plant and Supplies

There's never any toilet paper in the johns.
The coke machine doesn't work.
The plumbing always backs up.
The skylight in the classroom is broken and its too cold to teach.
There are never enough supplies.
The playground is overcrowded.
The new building is not ready on time.
Forty students in a class is too many.

Organizational Structure, Processes and Routines

The present policies for student use of halls and lockers don't work.
The procedures for using audio visual equipment is inadequate.
We need a way to welcome new teachers.
We need a procedure for hiring classified personnel.
The lunch room should be left open for teachers to work in.
Scheduling of teachers is not done right.
The keys to the rooms are lost.
Teachers are not involved enough in decision making.
Organizational participants lack skills of systematic problem solving.
Organizational participants lack norms encouraging collaborative action.
Organizational participants lack communication skills.
Schools are too big and need to be broken into smaller semi-autonomous units.

Interpersonal and Intergroup Problems

The custodian is "fresh".
The office secretary thinks that she "owns" the supply cabinet.
All the teachers hate the principal.
There is underlying racial tension.
The Black teachers don't like the new white teachers.
There's personality conflict between the principal and the coordinator.
The teachers have a condescending attitude toward the paraprofessionals.

TAG Attempts to Get Established and Have Impact

The teachers don't want to work with us because they identify us with parent activists.
The school forced us to move our office.
Our funding is too low to accomplish anything.
Teachers don't show up to meetings the TAG hold.
We're not clear on the role of community representatives.
Teachers don't think we're useful.
Many teachers had no idea of what the TAG was trying to do.
The TAG was too abstract.
The committee structure doesn't work.
The school rejected the facilitator and made it impossible for her to work.
Only a small proportion of the teachers participate in the renewal projects.

Relations With the Community and the School District

We don't have enough parent involvement.
The school district refused to recognize the legitimacy of the neighborhood School board.
The city and the educational system are having financial problems.
The school district wants to close down the school.
The parents don't care (from teachers) the teachers don't care (from parents).
The principal doesn't want truly knowledgable parents.
Because of decreasing enrollment they might decide to close the school.
The central office wants to change this school into a kind of middle school.
There should be a cross walk across the major street near the school so The children can cross safely.
The school district says we should have early closing on Wednesday.
The school district excessed many of the committed teachers and because of bumping (higher seniority people coming in) the new teachers don't care.
The culture of the school and the culture of the community are at odds.
Teachers are not in control of their own professional development in a Structure outside of line authority structures.

Management of Students

We have no discipline - there are incidents of rowdiness, truancy, vandalism, rapes, extortion and theft.
Someone needs to supervise snack break.
Suspensions concentrate on certain classes of students.
Arson is a problem.
Gangs are bothering kids in the school yard.
The school district wants us to enforce the county dress code.
We have a lot of "wanderers" (students who, in an open education setting, Don't settle into activities like most others).

Pedagogical Problems

Students have low IQ's.
Students have very low skills when they get to us.
Parents don't train their children to respect the school.
"In services" are not very useful.
We need an effective method of teacher evaluation that parents are part of.
Students come from low socio-economic classes.
The teaching here is poor.
Curriculum content and philosophy needs to be reconsidered.
Students are apathetic. You never have the same students from day to day. Most drop out.
Students have low knowledge about jobs.
We need to develop programs for remediation, for the able and talented Students and for vocational education.
One child, Sarah, cannot remember.
The terrarium died died and I need it for a class.

This list demonstrates the variety of issues people define as problems. It also demonstrates variations in how unusual a situation has to be to be called

a problem. It also indicates the possibilities for different people seeing different problems in the same situation. All of these ambiguities combine to make problems and problem solving confusing terms.

Using these terms has the following implications, e.g. when NIE chose the term, problem solving, they may have been trying to avoid the political difficulties of using the term improvement or identifying specific problems. They may have been trying to give local identifications of problems the ascendancy. They may have been primarily interested in the process of solving problems and believed that although the problems may differ, the process of solving them was essentially the same.

As we have studied the sites we have seen people engage in a multitude of different activities that could be called problem solving. To call them all problem solving, however, may obscure more than illuminate. Any act that is taken to help decrease the discrepancy between what is and what should be could be called problem solving.

Thus, using the list above we can identify a potpourri of divergent actions which can be called problem solving. The assumption that they are generally the same process and that it makes sense to think of organizations having a single capacity to take all these actions needs to be seriously questioned. We present a hypothetical list of actions that people might take to solve some of the problems listed above.

- Finding a way that a student's father can fix the plumbing.
- Finding a way for teachers to become involved in a sustained fashion in decision making.
- Helping school participants to surface racial conflict and work it through productively.
- The TAG undertaking a PR campaign to increase its credibility.

- Developing a school program that is continuous with the culture of the child's family.
- Preventing arson.
- Helping students to learn how to read.
- Designing and implementing an alternative school program for potential drop outs.

We do believe that problem solving is a potentially useful concept because it focuses analyst's and intervener's attention on the activities necessary to improve schools without being locked into any particular activities and problems. At the same time, however, care must be taken that the analysts don't get caught in their own abstractions. The concrete problems that capture people's attention do differ greatly and the actions needed to work on solving them differ greatly. These problems and solutions are what is most important to people in the schools.

How Important Are "Problem" and "Problem Solving" As Concepts for People in School Communities?

The previous discussions about the wide potential application of the term problem solving could lead us to ask what is not problem solving. Any action taken to reduce someone's perceived discrepancy can be placed under the rubric of problem solving.

Realizing this, we have several options open to us: 1) We can try to describe how people in the sites conceptualize their actions to reduce discrepancies; 2) We can accept that people don't necessarily conceive of their actions as problem solving but apply a problem solving framework in analysis; 3) We can restrict our interest only to those actions which fit into the traditional frameworks called organizational problem solving.

We feel the first option will be the most fruitful for two reasons: It allows us to use the *conceptualizations of the people in the schools as a* starting point rather than imposing our own. It allows us to use all the research traditions described in the previous chapter rather than being lead only into the organizational study framework. Ideally we could find a term to replace problem solving, but most alternatives - for example school improvement, self renewal, or adaptability raise difficulties of their own. Therefore, when we have to use a term to indicate our interests we use problem solving and improvement interchangeably - recognizing that neither of them is adequate. Others in DTA believe the second option to be most fruitful and later in this section we present a discussion supporting this view.

Problem solving as a concept seemed alien to many of the school/community people in the nine sites. They think more in terms of having or keeping a "good school" or educational "improvement". Some think about "change". The TAGs used the language of problem solving more than the teachers, administrators, parents, and students but even many of the TAGs seemed to have adopted the language in order to fit into the language of what NIE was funding rather than because they saw the concept as essential to their work. The traditions of their previous work did not focus on problem solving and neither did it seem that future work would.

Problem solving implies that somewhere in the process there is formal delineation of what constitutes problems. Our research suggests that school/community people take many actions for improvement or maintenance which they do not inherently place in the framework of problem solving, although someone else could.

The documentation unit of DTA believes there is a great danger in converting everything to problem solving for several reasons: 1) it prevents

analysts from understanding the native categories used by people in schools to explain their actions. Understanding these categories is essential for interveners who want to help schools improve themselves or teach them systematic problem solving. 2) It subtly directs analysts to the academic traditions of organizational sociology and social psychology from which problem solving as a concept springs. We feel that this restriction to these disciplines can limit a comprehensive understanding of what helps schools to sustain processes of improvement.

For example, a strict approach to problem solving within the framework of organizational sociology and social psychology might not see the following actions as formal problem solving. For the organizational theorist, problem solving usually implies a conscious process of actions planned and often taken in hopes of ameliorating a specific, identified discrepancy from an ideal state. The following actions do not fit that model (although they could be bent to). Often there is no specific identified discrepancy or the process is not conscious. Nonetheless, they could be important school improvement activities and they need to be considered when trying to discover what sustains processes of improvement. Routinely sharing work concerns cultivating political connections for potential future need, legally establishing procedures, sharing and elaborating a vision, etc. can all easily be seen as something other than problem solving. Yet, we have seen in our documentation that these kinds of actions are often parts of patterns of sustained improvement.

- A group of teachers discuss over lunch how they are going about teaching metrics.
- A principal invites a downtown curriculum specialist to come talk to his staff about a new vocational education program being tried out just because he thinks it might interest them and build political support for future actions.

- A group of parents demand the right to attend certain school policy meetings.

- A committee of staff, students, and parents interview prospective teachers and agree to hire only those who seem to understand the philosophy of the school.

- A principal invites local city council members to a presentation about the programs at the school.

- A teacher center holds a workshop for teachers and parents to discuss concepts of open education.

Our research suggests, that these kinds of actions are often parts of patterns of action which sustain processes of improvement. It would be a shame to neglect them because they are not parts of problem solving experiences. It would also be a shame to force them into categories of problem solving.

Below we present a discussion of different formats that could be used to characterize improvement impulses. We will present a brief description of each format and then using data from our documentation and insights from the literature highlight difficulties with the format. The formats discussed are:

Dissatisfactions
Problems
Perfection of Visions
New Ideas to be Tried Out
Demands
Maintenance

Dissatisfactions

Dissatisfaction seems to be the most widespread of improvement impulse in school/communities. Teachers, students, and parents are aware that the education process is not going right and express their uneasiness about it. Dissatisfaction is also the least structured form of expression and gives little guidance for future activity. Often this is as far as expression gets. One can look at most of the TAG approaches to helping the schools as partly attempts to structure and change the dissatisfactions into more productive forms. Although strong dissatisfaction may serve a motivating function, it doesn't do

much for helping people to interpret their world.

Problems

Perhaps the most popular approach to conceptualizing how improvement activities start is the one that stresses that people become aware of needs and then articulate the needs as problems (Havelock, 1969, Lippit; et al., 1958). Indeed, indicating that popularity DTA's mandate for existence is framed in the rubric "capacity for problem solving" (NIE, 1973).

While awareness of needs and statements of problems is one pattern that we have observed for starting improvement activities, it is by no means the only one or necessarily the most effective. Data suggest several impressions that might be generally existent about the "problem" format. Many of the professionals within the school community find it difficult to acknowledge "problems" with their negative connotations because such recognition threatens a sense of competence. The problem raising format contains nothing intrinsic to raise peoples consciousness for discovery and reconceptualizing problems; instead it solicits their pre-existing notions. Problem raising carries no intrinsic messages about subsequent actions which seem to flow naturally from the problem.

Problems do not necessarily carry any energy to induce further action. Problems have no inherent structure which implies a way to prioritize. Because problems are not tied to a particular interpretative framework they can be seen as alien and artificial. Problem raising can result in demoralization.

Those who work within the tradition of using the "problem" format (e.g. Schmuck and Runkel, 1972; Miles, 1964) realize these dangers and concentrate on overcoming them - e.g. by helping people in organizations feel comfortable in acknowledging problems, by helping them to organize themselves to identify needs, translate them, into problems and to prioritize, and by helping them to

come to see problems as the first step to action. Another benefit of the problem format is its ability to coordinate interpretation from many different frameworks and to organize action in a pluralistic setting.

Perfection of Visions

In some sites improvement impulses grew directly from an articulated approach to education that dominated the setting. Improvement activities seemed an intrinsic part of elaborating and understanding the framework in general; they were somewhat a natural part of working in the setting. They didn't carry the negative stigma of problems. The approach of creating totally new organizations is one manifestation of this approach (Sarason, 1972). Acting and interpreting the world are natural outgrowths of the vision.

The difficulties of this format are that it presupposes deep commitment to and understanding of the vision. Also this format does not help in interpreting or even considering issues which are clearly outside the vision. Sometimes it leads adherents to avoid some information. Some approaches based on learning, developmental and curriculum theory attempt to serve as total filters for the world - i.e. they purport to have frameworks for explaining the most important functions of schools and seek to have all events interpreted within that framework.

New Ideas to Be Tried Out

For a long time educational change theorists of the Research, Development and Dissemination school (Havelock, 1969) thought that the consumption of new ideas, materials, etc. was an important way that schools improved. The new idea as format has certain attributes" it doesn't necessarily imply anything negative about what is already being done, it has the excitement of "newness", it is flashy, it is in tune with a deeply ingrained American theme of "progress".

it usually carries some status attribute of having been developed by researchers or perfected somewhere else, and it offers hope and a chance to escape the present realities.

In the last decades ambitions innovation projects were undertaken. Disillusionment set in about their effectiveness. Investigation revealed that usually the innovations were not really accepted or incorporated into the schools and that in actuality many were not implemented (Ford Foundation, 1972). In part the ineffectiveness of innovations can be viewed as a problem of format. There is a high chance that innovations are isolated and don't fit into any pre-existent cognitive or organizational structures.

March (Cohen, March, and Olson, 1972) calls them "solutions in search of problems". Contemporary theorists highlight the need to fight against this haphazard adoption of innovations; they note that those innovations that are adopted in response to genuinely perceived needs (and hence part of the problem-solution format) are more likely to have impact. A recent RAND study (Berman and McLaughlin, 1975) reinforces this notion by pointing out that those innovations that were adopted "opportunistically" were less effective than those adopted as part of natural process. The RAND study also presented the notion of "mutual adaptation". The conception of the innovation had to be blended with the conception of the participants in order to build something viable.

Observations in the sites in part substantiate these views about the format of innovations, but also raise some important questions. The schools in our nine sites can be characterized as a cacophony of special programs in addition to the strategy we were studying. Many of these programs seemed inappropriately grafted on rather than organically incorporated. Some teachers and participants had no knowledge of some of the programs in their schools. For example, teachers in one project proposed to buy equipment that was lost in the closets of other projects.

Some of the approaches to capacity worked conscientiously to help people convert from the format of innovations. The approaches which emphasize organizational problem solving tried to help local participants systematize their search and use of innovations. They tried to get people to view innovations as a tool to use in the problem solving process rather than as the solution itself. Similarly some of those sites which had central organizing themes converted the innovations into their own terms and used them freely.

Innovations function in other ways which must be carefully considered. We observed an extremely strong tendency of teachers to try new things out - new books, new methods, etc. Often these attempts were not rationally thought out. To the onlooker they appeared impulsive. Yet they often had beneficial effects on educational interchange. Jackson in his classic Life in Classrooms (1968) points out that teachers cannot or do not articulate much that they do as part of a carefully thought out plan. This modus operandi seems deeply ingrained in the traditions of teaching. There is a danger that this impulsive innovation (with its attendant benefits) would be discouraged in a place where everything was subjected to a formal problem solving approach - i.e. teachers would be asked to rationally justify what they wanted to do.

Similarly we wish to amend the concept of "opportunism" as promulgated in the RAND report (Berman and McLaughlin, 1975). "Opportunism" is not always bad as its connotations suggest. Adopting innovations and bringing new money and resources into a school serve many functions besides that thought of by the innovators. From the perspective of the innovators, opportunistic uses must indeed look like failures. From the perspectives of some school people, however, opportunistic adoption looks like survival, or hope inducers, or status enhancers. We have observed shrewd use of innovations to accomplish what

local people feel they needed. Also we have observed the winning of grants and acceptance of innovations as symbolic acts. The school says, so-to-speak, "Look, we are a dynamic place that is trying out new things." Obviously the adoptions, mutual adaption and exploitation of innovations is an important part of capacity for improvement. We need to investigate carefully under what circumstances improvement really results.

Demands

Demands highlight the importance of who is perceiving the problem and what power they have to compel other peoples actions. We observed improvement actions being dictated by central offices, principals, fellow teachers, etc. For example, in some districts the central office tells staff in each school that they must select one of several selected reading programs for early elementary grades and then stay with the chosen program. At one school a principal tells his teachers that they will be expected to be part of committees working on school improvement. In another site teachers are told they must design their teaching around the principles of competency based education.

For the people who initiated these activities, they were conceived of as problem solving; for others they might be conceived of as problem creation. For everyone, however, these improvement impulses appear in a different format than the others in this discussion. There is a long tradition in understanding organizational functioning which highlights the need for power and imposition to get people to take actions necessary to improve organizational outcomes. Although this was not the central feature of the strategies we were studying, there were plenty of these actions and conceptualizations present in the sites (see discussion of "power-coercive" approaches to change in Bennis, Benne & Chin, 1969).

Maintenance

People in the sites often did not feel they were problem solving in the positive sense of figuring out what could be better and trying to take actions to bring the better state about. Because of the contextual state of urban education - e.g. deteriorating fiscal resources, declining enrollments, teacher lay offs, public distrust, and forced desegregation - they often had to spend most of their energies fighting to maintain what good they had already accomplished or even the basic level of support needed for future improvement attempts rather than having any energy available for actually working on their improvement ideas.

As schools were fighting with the school board to keep a school open or trying to figure out how to orient and coordinate a staff of which half were newcomers who preferred to be elsewhere, they rarely seemed to have time available to work on other problems - for instance, how to help the children improve their skills. Unfortunately many of the schools we studied seemed consumed by these survival and maintenance issues. These sets of actions in which they engaged to cling to what was valued could be conceived of as problem solving. For local people, however, they were conceived of as survival.

We believe that the previous discussion portrays some of the variety of ways people conceptualize their actions to keep or develop good schools. We believe it would be a serious error for anyone interested in understanding school capacity for sustained improvement to exclude any of these kinds of actions from their consideration. Furthermore, we believe imposition of a problem solving rubric is unfortunate because it does violence to the ways people conceptualize their worlds.

Now, a claim could be made that conversion of these others to a problem solving format with attempts to get clear articulation of problems and proposed

solutions would be more effective or more powerful than working with other formats. Our data are inconclusive on this point. We have observed attempts to get people to work in systematic problem solving formats which had a modicum of success and also some which had no success. Similarly we have observed sites where other formats are dominant where there were signs of ongoing beneficial action and others where people felt lost and unproductive. It is this author's opinion that a problem solving format is not necessarily the best way to approach improvement and that other formats hold considerable promise. We will elaborate and substantiate this claim in the later cross-site papers analyzing events that we have observed.

Our DTA colleague Phil Runkel, who has worked for many years within the traditions of the social psychological study of organizations, believes in the power of the problem solving format. In response to an early draft of this paper he wrote:

> Concerning the section on "Format taken by improvement impulses", my conception of problem solving leads me to interpret your thoughts as follows. Problem solving has three necessary parts; assessing the present situation (P-problem), visualizing the desired situation (T-target), and conceiving some steps to get to the desired situation (S-solution).....of course, is not only conceiving some steps, but taking them. The steps are more likely to be productive, too, if people check whether each is taken, judge whether they had the intended effect, and re-cycle as necessary.
>
> People can start work on a problem (regardless of whether they call it a problem) from any of the three aspects of it. Starting at S corresponds to your dissatisfaction, problems, demands, and maintenance-those being somewhat different viewpoints on the present situation. Your "maintenance" could also take on the flavor of a target (T): how can we achieve the goal of not doing worse than we are now? And your "problems" often generates a T, at least vaguely. Starting at T corresponds to your perfection-of-a-vision. Starting at P corresponds to your new-ideas-to-be-tried-out. Regardless of where people start, most problems will yield only if the relevant people pay adequate attention to all three aspects. A group reaches a good solution of a problem without paying attention to one of the aspects only when they have the good luck to have already the information, or the agreements, or the norms connected with that aspect that fit into what they do with the other two aspects.

> The danger of paying no attention to S is that people will discover later that they have done away with things they didn't want to do away with. The danger of paying no attention to T is that people will later discover that they have brought about things they did not want to bring out. The danger of paying no attention to P is that people will later discover that they failed to take necessary steps, that they duplicated steps, or that they took ineffective steps. There is also the danger of talking too much about the three aspects and never getting into action.

We know that Runkel and the others at Center for Educational Policy and Management - University of Oregon have had some success using this rubric. Similarly we have seen some success in sites where the TAGs tried to get people to formally to attend to the S, T, and P. We would disagree, however, that such formal attention is always necessary or even desirable. There are many ways to move toward improvement.

Solutions Become Problems

Traditionally, the process of problem solving is essentially conceived of as linear connection between problems and solutions were problems and solutions are conceived to be different things. A review of our data suggests that this often does not turn out to be an accurate distinction. Phenomenologically, the most important problems to school people are what sound analysts might see as solutions.

The nature of problems in schools often seems to lead participants to propose multifaceted, complex solutions; it is not a matter of just sowing new seeds to increase yield of a crop. Participants often conceive of problems as interrelated and requiring appropriate comprehensive solutions. Solutions therefore appear in inner connected webs. Furthermore, once the decision about a major solution direction is made, the working out of the solution becomes the set of problems that most consumes people. The solution is the problem as the following

examples illustrate.

> In one site participants recognized the problem that children were bored and not learning. Participants made the judgement that the real problems of elementary schools were the lack of appropriate curricula and classroom structure and the isolation of teachers. The traditional curriculum/classroom structure was not in tune with the organic learning and developmental tendencies of children. Similarly there were no appropriate structures for teachers to relate to each other as colleagues. After these basic judgments were made participants spent years refining and elaborating an approach which reflected their views (Responsive Education Project - 8).
>
> In another site school participants noted as problems that high school students were apathetic, dropped out, were truant, acted out, and did not learn. They then concluded that the problem was that there was no arrangement that let students and teachers get to know and trust each other, that gave students a role in designing curriculum, and that had sufficient flexibility to find a learning program that would interest students and be linked with realistic vocational goals. The problem for participants then came to be how to implement and appropriate program and structure (School Self-Improvement Project - 1).
>
> In another site participants noted that there were discipline, teaching, and learning problems. They also concluded that the real problem was the lack of connection between the school and the community. There were learning and discipline problems because students and parents did not sense that the school was theirs. The problem then became how to increase the parents potency in influencing the school and how to increase receptivity of the school (Cultural Continuity Project - 4).

This fluid relationship between problems and solutions leads us to propose a model for stages that problem identification can undergo. Descriptions of problems give rise to a search for the problems that underlie these problems which gives rise to proposed sets of activities designed to solve these problems. The implementation of these activities compromises a new set of problems.

Descriptive Statement of Problems

Problems are first apparent to people in terms of descriptions of behaviors and situations which they evaluate negatively and which are discrepant from what they feel ought to be. They make statements such as "there is too much truancy". Agreement among people is not difficult to generate at this level.

Analytical Statement of Problems

This is in some ways the most critical step where people try to go beneath the immediately apparent description to identify the behaviors and situations that are at the root of the descriptive problems. These too are stated as problems and represent peoples' feelings about discrepancies between what is and what ought to be. In this step, however, participant's meaning value structures become salient as they try to interpret their world. This is where they try to get to what they sometimes call the "real" problems. There is likely to be fundamental disagreement in this step and this is where the shared cognitive framework becomes important. To some people the real truancy problem is the lack of strict enforcement of rules with home visits while to others the real truancy problem is the lack of engaging curriculum.

This step is crucial because it provides the basic analytical framework that people use to think about the problems and because it is the gateway to action. It becomes the problem. Some might want to call this activity problem diagnosis, but such an act is dangerous, because it blurs the functional quality of these statements as being the real problems people work on.

Solution as Problem

After participants share their analytical statements of problems, and arrive at a joint definition they work out a program of activities that is their response to the problem. Once these programs get off the ground, they take on a life of their own. Issues having to do with implementing the program become the most salient set of problems facing people. A commitment has been made to an idea and direction and problem solving begins to concentrate on elaborating and effecting that idea and direction. The frequency of mention of the original problem decreases.

This analysis of stages of problem identification makes it clear that the notion of problem as it is classically presented is deceptive and that anyone working with problem solving as a concept must deal with that fact. The distinction between descriptive statements of problems and analytical statements of problems is critical because of the tendencies for disagreements and the action implications; anyone working to build capacities for problem solving must recognize this distinction and tailor their intervention accordingly. A school setting which was able to work on its problems in a sustained way would probably have mechanisms which facilitated people's penetrating to the analytical problems rather than always moving from description straight to action. Interveners would need to help schools build these mechanisms.

The distinction between problem and solution can disappear for participants after they embark on a chosen course; implementing the program becomes a special set of problems in and of itself. To those who are committed to seeing problem solving in terms of the original and most apparent problem to be solved, it may be lamentable that innovations or solutions take on lives of their own and that participants lose direct touch with the original problems. But it is equally possible to take the view that it is also problem solving to deal with complex human problems and their solutions. We can recognize that school problem solving may not easily fit the flexible world of diagnosis - trial solution #1 - evaluation - trial solution #2 - as some ideal models would propose. Evaluation of solution effectiveness is not easy to accomplish in education and the refinement and implementation of the solution may be the most important problem solving activity in the schools. Thus, there is good reason to question the classical distinction between problems solutions.

What Actually Leads to Problems Getting Solved?

The criteria for judgements about the existence of a problem solving capacity in a setting must ultimately be: Do problems get solved? Do they get reduced in severity? The fact that solution of problems is so crucial in making judgements about problem solving raises a major conceptual difficulty. NIE and others interested in problem solving focus upon the process of problem solving, i.e. what do settings do to identify problems and implement solutions and the structural enhancers of the process.

Presumably, someone could be interested in this process (and its structural prerequisites) without dirtying their hands with interest in the specifics of the problems and the actions taken. An example of truancy will illustrate. A focus might be on questions such as how did participants come to identify the problem, what structures helped them work together to diagnose its causes, how did they use outside resources in contemplating new programs, how did they get the political and financial support necessary to implement the programs, what structures helped them regularly assess how things were going and modify the program accordingly, etc.

Now we agree that attention to these processes and structures is extremely important. From observation in the sites, we also feel, however, that one cannot avoid attention to the specifics - i.e. the traditional concerns of those interested in instruction, curriculum, and human development. What was the diagnosis they made about the causes of truancy and how sound was it? What was the nature of the program finally designed? How well was it connected to the diagnosis? How skilled were people in carrying out the programs? How interesting and effective were the materials that were part of the program? How skilled were people in evaluating the effects of the program? And so forth.

Actual movement toward solution of problems results from the interaction of the structures and processes which facilitate work on problems with the soundness of educational programs and activities undertaken. Presumably a setting could have a capacity for sustained work on problems but make very little headway because participants consistently make mistakes in analysis or lack the skills to undertake needed actions.

Conceptually this process/content split is a major difficulty. The term problem solving is ambiguous in whether it encompasses each step in the complex process or whether it means the whole process of actually bringing problems to solution. Our research mandate called for us to analytically divorce ourselves from the specific content and methods being worked with; i.e., we were not supposed to focus on the specific issues having to do with reading programs or day-to-day classroom teaching except as it would help us to understand the organizational process of working on problems or failing to work on them.

Now we agree that this emphasis on the organizational process of problem solving is useful because in the past excessive attention has been given instead to perfecting new methods of instruction and new curriculum. At the same time, however, analysts with this structural bent cannot afford to blind themselves to the realities of the specific issues. How teachers teach and what they teach are important and are often much more important to teachers, parents and students than are the structural issues. To these actors solving the problems of schools depends primarily on changes and improvement in the process and content of what goes on in classrooms.

The importance of structures, process and specific educational activities needs to be respected. Even more, it is not so clear as is sometimes depicted

that the specific issues and the processes by which they are worked upon can be so analytically separate as we have presented them. It may very well be that the features of a setting which enable it to sustain problem solving related to gaining and keeping political support may be very different from the features of a setting that help participants solve problems related to the educational program. Also it is possible that the features of a setting which are necessary for sustain problem solving within one specific approach to schooling may not be potent within another approach to schooling.

Problem solving is a potentially useful concept because of its focus on the generalized process of improvement rather than on someone's favorite panacea. At the same time, however, the concept is fraught with ambiguities and possibilities for confusion. It is important therefore that analysts be aware of these difficulties and let the concept of problem solving be a servant, not a master.

CHAPTER IV: THE CONCEPT OF LOCAL

CHAPTER IV: THE CONCEPT OF LOCAL

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THE CONCEPT OF LOCAL

Introduction

In this chapter we conclude our exploration of the paradigm of building local capacities for problem solving. We concentrate here on the idea of local.

There is a tradition of great respect for the governmental activities of local communities in the United States. Some would probably claim that local self-government is the cornerstone of American democracy. Many find the idea also appealing when applied to school improvement or problem solving.* Why should improvement depend on district bureaucrats in the state or national capital or academics on university campuses? The most powerful origins for improvement activities are right there in the local community where people have the most complete knowledge of the context, where people have an immediate and compelling stake in what happens, and where the probability of continuing interest and effort is great.

Again as with the concepts that we have discussed in other chapters, the core idea of local is captivating and seems powerful. It is a way of thinking about school improvement that differs from what has been dominant in previous years and which offers an intriguing perspective. Like the other concepts, however, there are major ambiguities and limitations in its usefulness.

In this chapter we consider three of these difficulties. 1) Local can mean several different groups of actors when applied to schools. This

*See the first chapter on context for a discussion of the historical reasons for increased current interest.

ambiguity is especially important because of the ambiguous relationship of professionals to clients. 2) Even the geographical boundaries of local are unclear. Is local best thought of as a single school, a neighborhood cluster of schools, a district, or what? 3) What are the causes of problems and the resources necessary for solutions that are clearly beyond the control of local actors? Again, as with the other concepts we conclude that the idea is extremely important, but analysts and interveners must be wary of the ambiguities and not get caught by them.

Professionals and Clients

The term "local" seems simple but is actually elusive. The researcher interested in understanding what is a capacity for problem solving and the assistor working to help people build a capacity must inevitable face the value question of who constitute the relevant local participants. This is important because as we previously pointed out, the meaning of problem is assigned by people and groups might differ greatly on what they perceive as problems and solutions.

Local, when thinking about schools, could mean primarily administrators and teachers or it could include students, parents, and other community people. This choice of perspective is arbitrary, depending on the participants' and the analysts' theoretical and value dispositions.

There are different views about what kind of organizations schools are. One view sees them as professional, technically specialized, client-serving organizations like hospitals, where the major responsibility for problem solving must rest with the specially prepared expert staff. Others see them as political or cultural entities that are supposed to represent the

will of the served and thus as places where problem solving should be considered in relation to all potential participants.

This variability in the meaning of local can cause some confusion. It would be possible, for example, for the professionals in a particular setting to have developed processes and structures to help them work on what they perceive as problems. An analyst who accepted the notion of local to mean primarily the professionals in a setting might feel that this setting had developed some capacity for problem solving. An analyst, however, who saw the school as an extension of the community might ask whether uninvolved community persons or students felt that there were effective structures for working on what they saw as problems. Judgments about whether a local setting has a capacity for problem solving inevitably depend on how one defines local.

> In one of our sites the major emphasis was on working with the professionals, the teachers and the administrators. The strategy emphasized organizational development techniques. In some schools where they worked they manage to initiate on-going problem solving activities. Parents and community were never central to this work (School Self-Improvement Project - 1).

The research traditions discussed in chapter II suggest alternative approaches to this question. In some ways it seems like the question of what is the most fruitful way to define local should be open to empirical scrutiny; for example, what happens in the places where the strategies did not attend to community, and essentially defined local to mean the professionals or vice versa? Later substantive papers from this project will present some information and ideas relevant to that question.

The sites were not chosen with that question in mind, nor was the DTA research designed for that purpose (see Appendices on choice of sites and

and methodology). We tended to take our cues from how each site defined local with some attention to events which challenged that definition.

Where Does Local End and Non-Local Begin?

Another issue in the definition of local is the size of the local unit. Local could mean a single school, a cluster of schools in a neighborhood*; a district, or an entire city. Again one's definition depends on one's predispositions.

As we explained in the section on problem solving, what one part of a system sees as a solution another part may see as a problem. Similarly the structures and processes which might sustain problem solving in a district or a cluster of schools might be different than those that would sustain problem solving in a school. Again we were working with certain givens. The strategies that NIE funded focused on work with schools individually even when there were several in a district. Also because of limited research resources, site researchers had to make choices to look at the activities around particular schools. For instance, our site researchers did not spend much time, if any, at district offices. Our case studies and data are predominantly from the perspective of people within and about local schools. We have much data about relations with the larger context but that was not our focus. Nonetheless, the reader interested in local capacities should realize that there are other definitions of local and that differences in what one sees as local can have radical impact on how one interprets activities.

* The notion of neighborhood is even elusive. Some analysts see the modern fragmentation of urban life destroying the community essence of neighborhoods. One can ask what makes a real neighborhood.

How Much Can a Local Setting Do?

The notion of local capacity has some other difficulties. Is it intellectually naive to assume that local actions can possible solve the problems of urban schools or that local actions can make much headway against societal, contextual forces? One critical question is: what are the limits of local action?

There are limits arising both from what the origins of the problem are and from what actions a local setting can implement. There have been many recent analyses of the origins of problems in American education. Each of them pose possible limits on the effectiveness of local action.

One kind of analysis sees schools as a mirror for the class structure of the society (e.g., Bowles and Gintis, 1976; Carnoy, 1974; Rosenbaum, 1976). What may look like problems on the local level - e.g., the failure of schools to reach certain goals or the failure of schools to serve certain students - are actually functional in terms of the school's ensuring the survival of the macro-structure of society. The schools help to perpetuate the class structure and systematically cull out appropriate people for upward mobility. The forces which cause the schools to function in this way are subtle and manifold, ranging as widely as the financing patterns for schools and the relationship between schools and the occupational structure.

Another analysis points to racist, language, sex, and cultural biases as the roots of many urban school problems (Rosenfeld, 1972; Wright, 1970). The predominant views of the powerful members of society infuse all of its institutions and promote attitudes which obstruct the advancement of minority group members in all kinds of endeavor. Within the schools, these attitudes

shape what can happen. In subtle and not so subtle ways the attitudes are institutionalized and obstruct the education of minority children. The mechanisms range from hostile actions of prejudiced teachers, to subtle patterns of tracking, and to even more subtle patterns of language usage. These racial and cultural attitudes and their institutional representations may not be amenable to piecemeal attack on the local level.

Another analysis points to school bureaucracy itself as the cause of problems (e.g., Illich, 1971; Katz, 1971; Reimer, 1972). Organizational inertia and complex interconnections of obligations and structures have decreased the likelihood that schools can change much. Any actions within the context of the institutions without a radical restructuring of the bureaucracy is doomed to ineffectiveness. Undoubtedly, local actions short of total restructuring designed to address problems with these origins can be taken. Someone interested in capacity for problem solving must realize, however, that obstacles to the actions may stem from the pervasive scope of the problem, rather than inadequacies in local actions. For example, Stinchcombe (1965) describes studies of problems faced by western style factories in other cultures where every folkway worked against the innovation and Center for New Schools (1972) describes problems an alternative school faced in building a school program based on a concept of youth that was at odds with that prevailing in the society. Most importantly, those interested in the concept of a local capacity must stay alert to the possibility that nothing local can solve the problems.

There are other reservations about the local emphasis to keep in mind. Even though one might focus on the local school community, one cannot

disregard the fact that the school is part of many complex non-local networks. These other networks can have significant impact on the local schools ability to act. The relationships the local school builds with the outside are worth consideration as a significant type of local action.

Similarly, the role of outside information and assistance sources needs to be carefully considered. It is important to be wary of assuming too much ultimate independence for the local school/community. Havelock (1969) has pointed out modes that emphasize the importance of such outside sources in change (and by implication in problem solving). For example, in order to complete a problem solving cycle, the local school may need materials and knowledge that are beyond its ability to produce. Also, the lethargic tendencies of schools as established organizations may be such that they need the constant presence of outside assistors who are free of internal obligations and socialization in order to stay adaptive.

In spite of these difficulties with the notion of local capacities, we are still convinced it offers a fruitful perspective. The cross-site analysis papers will show that there are indeed ways that local settings can structure themselves so that they can do the best possible with what the larger setting provides. It is important, however, that when stressing local action one keeps in mind the real limits of local action and the need to carefully think through the concrete definition of who is local.

CHAPTER V: CONCLUSION

CONCLUSION

What Are Local Capacities for Problem Solving?

We have sought to demonstrate that the paradigm which stresses local capacities for problem solving is potentially a powerful one. It asks those interested in school improvement not to concentrate on particular remedies for particular problems but rather to concentrate on a wider and more long range focus. That is, what can be done to help school settings develop capacities for problem solving, i.e., arrange themselves so that they can solve their problems continually with some success and strive toward improvement in spite of changing contexts, fads, and societal orientations? Developing these arrangements in order to increase the self-sufficiency of school settings is seen as the best investment for scarce resources.

While we believe the gist of this paradigm is powerful, we have become aware of many difficulties of working within that framework within the world of real schools. We have realized that capacities are hard to get hold of conceptually. It is the more given to the general state of a setting of being able to do something over time. The only way one can validly conclude that a setting has a capacity is to observe its behavior over time. Someone hoping to build capacities cannot wait. They must work with something more concrete and immediate. We have suggested that there are features of settings that can be identified which give promise of supporting improvement activities over time and that these can be worked with directly. Different sets of features are emphasized by different research traditions. Our experience with the nine sites has led us to conclude that three areas in which features should be worked with: the school's political and cultural connections to its environment, the nature of classroom teaching and teaching as an occupation, and the school's functioning as an organization. Establishment of particular

kinds of arrangements in each of these areas is likely to support sustained improvement and problem solving activity. The case studies and cross-site analysis papers to which this is an introduction analyze these features in some detail.

We have also realized that problem solving may be a misleading term. Problem solving can have a very limited meaning concentrating on processes of formal problem solving as is depicted in social psychological, organizational theory. We warn that it is a too limited conception and that there are other processes of improvement worth paying attention to. We also have discovered that problems are not a concrete class of objects but rather value laden definitions of situations. Thus, those interested in problem solving need to pay attention to how situations get defined as problems, to possible differences among groups of actors in what is perceived as problems, and to the wide variety of things called problems. They need to be ready to help in the definition process, to be clear on whose definitions they will work with and to be able to shape priorities on what class of problems they are willing to work on.

Finally, we have realized that the emphasis on local actions must be tempered with a concern with non-local issues. For instance, these who work on building local capacities must be aware of the dependency to local settings on non-local sources of trouble and information. Similarly they need to be aware of the essential ambiguity of who is included in the definition of local and be prepared to take a position.

The paradigm of building local capacities for problem solving offers hope of improving schools where the paradigm of introducing innovations made a few inroads. Those who work within the paradigm need to pay attention

to the difficulties we have discussed if they do not want to be tripped up. We look forward to research and technical assistance based on this paradigm. We invite readers to read the other DTA papers which analyze data from the nine sites and our own technical assistance sites to identify those features which we propose support sustained improvement activities and how we might help school settings build these skills.

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APPENDIX A: NIE'S SHAPING OF THE POPULATION DTA STUDIED

A. SOLICITING PROPOSALS

B. ELIGIBILITY REQUIREMENTS

C. CRITERIA FOR SELECTION

D. PROCESS OF SELECTION

E. THE SELECTED SITES

F. THE DIFFICULTY OF SELECTION OF SITES

G. CAPACITY FOR PROBLEM SOLVING VS. SCHOOL IMPROVEMENT

APPENDIX A: NIE's SHAPING OF THE POPULATION DTA STUDIED

Soliciting Proposals

One key resource in the DTA design is the projects from which we were to learn. NIE (1974) believed that locally initiated projects existed around the country which demonstrated promising examples of "organizational arrangements for helping urban schools sustain a process of continuing improvement." The projects would be important both as the basis of DTA's analysis of what constitutes local capacities for problem solving and as a concrete resource to its technical assisters for helping other local schools build similar capacities. Since the shape of the DTA analysis has inevitably been influenced by the nature of the sites that constitute the data base, the reader may wish to know as much as possible about the criteria, and the process NIE used to select the sites.*

The program announcement for the nine sites summarizes the grant in the following terms:

> The National Institute of Education (NIE) is interested in studying the potential of various organizational arrangements for helping urban schools sustain a process of continuous improvement. The Research Program on Organizational Strategies for School Improvement- of which this Announcement is one part- will (1) provide grants to support the further development or extension of programs for accomplishing the above objective, and (2) contract under a separate solicitation for documentation and evaluation** analyses in order to acquire generalizable information which NIE can use to assist other schools considering similar programs (NIE, 1974).

The idea for the proposal grew out of a report on Building Capacity for Renewal and Reform prepared by NIE in December of 1973. One chapter in this

* This section on selection process is in large part an edited, excerpted version of a report prepared by Deborah Baldwin (1976).

** The evaluation language was later dropped from NIE's lexicon and DTA was not contracted to evaluate the projects.

report stated the view that the R & D community is one resource for innovative activity in the schools; other resources reside within the practitioner and lay community. The report stated that these other resources, "must be identified, given support, and utilized more effectively.". The original strategy was a program of directed experimental studies to develop, test, and disseminate approaches for building problem solving capacities in schools. The experimental program was to be designed to examine the effects of various approaches within four contexts: 1) among teachers, 2) in individual schools, 3) in school districts and 4) in school communities. One important step in this process was locating and documenting viable approaches that already existed.

While the NIE local problem solving group had ideas about what kinds of projects would be germane to their interests, they did not want prematurely to limit potential applicants. After all, they believed that the practitioner community had much to teach and they wanted to explore openly the possibilities. Thus, they had the tricky task of putting limits on a realm which could not be definitively specified. They did want to discourage projects that they judged not to be working on developing a capacity for sustained improvement.

The program announcement for the nine sites goes on to specify in more detail what they thought were relevant (NIE, 1974, p.7):

> This Announcement invites proposals for the further development and/or extension of organizational arrangements that will help people (professional and non-professional) associated with a school or small cluster of schools located in an urban area engage in an on-going process of:
>
> . Identifying problems.
>
> . Searching for or devising appropriate solutions to those problems.
>
> . Implementing those solutions in effective ways.
>
> . Monitoring performance and assessing the effectiveness of particular solutions, possibly leading to a redefiniton of the problems.

Later, in the body of the program announcement (p. 9), they give examples of approaches which might address their concerns:

> For some urban situations, it may be appropriate to develop an approach from a base outside the actual school building(s) Among the existing models that might be adopted to this purpose are: university/college research and service bureaus, teacher centers, regional information centers, advisories, resource teacher arrangements, citizens advisory councils, evaluation service agencies, consultant services of a state education agency, instructional materials centers, or agencies specializing in in-service teacher education.
>
> For other contexts, the most appropriate strategy might be to begin with organizational changes within the target school(s), such as: differentiated staffing patterns; new governance systems; reducing the instructional time for students to allow staffs more time for planning, staff development, and program evaluation; arrangements for including parents and students in decision making and evaluation; scheduling changes that permit more productive interactions between administrators, teachers, parents, and students; different use of space in the education program, both within and outside the school building; changes in existing incentive systems for students and staff members.

The announcement was sent initially to a number of relevant groups determined by NIE in addition to the required federal government postings. It is possible that this action affected the variety and number of proposals that were received. For instance, there were many more proposals received from the New York area than any other metropolitan area. This may have been due to the fact that the New York schools are decentralized and, therefore, the announcement would have been distributed to many more people than in some other cities.

Eligibility Requirements

> State and local education agencies, colleges, universities, and other profit or non-profit organizations and groups are eligible for grants. Although the organizations or groups submitting proposals need not be part of an official school district structure, it is essential that the proposed program respond to the

> needs of an urban school district and its local community and be supported by school district policies and activities relating to the target school or cluster of schools (NIE, 1974, p. 10)

In addition to the above stipulation, the program was to be directed at the nation's fifty largest cities. Within those cities at least 50% of the target student population must have come from low income families.

It was also stated that this grant was not designed for the development of new programs and that when changes in the existing organizational structure were indicated in the proposal a letter of explanation was required.

> Proposals must demonstrate that the project builds on program elements already in existence. To encourage new combinations of strategies and imaginative extensions of existing programs, NIE has deliberately refrained from establishing specific criteria that might restrict the range of organizational arrangement proposed....
>
> Due to the limited funds available under this Program Announcement, proposals are invited which extend, refocus, or add new components to existing* activities or organizational arrangements. Proposals from these existing programs may request funds to extend their current activities, to develop a formative evaluation component, to train additional staff, and to provide technical assistance to other groups or individuals. Funds under this program are not* intended to support the core staff of a project or to provide other basic operational costs (NIE, 1974, p. 9).

Criteria for Selection

The basic criteria (NIE, 1974, p. 12-13) used for the selection process at all stages were:

(1) Technical quality

- Quality of analysis of prior efforts to stimulate sustained improvements in urban schools.
- Extent to which the proposed project is responsive to the problems existing in the selected urban schools and shows promise of creating conditions that will support sustained systematic change and improvement.
- Extent to which the organizational arrangements proposed have the likelihood of continuing as integral features of the institution(s).

* Emphasis in original.

(2) Feasibility

- Extent to which the activities described have the likelihood of being conducted effectively within the proposed budget.
- Extent to which the proposed activities have the support and commitment of the various authorities, participants, and client groups who are involved in or affected by the program.
- Extent to which the proposed program has the potential to be adopted or adapted within the realistic financial constraints faced by most other urban school districts.

(3) Quality of Proposed Staff

- Experience and demonstrated record of thoughtful and imaginative approaches to improving urban schools.
- Quality of the discussion and analysis in the proposal. (Interviews will be conducted with personnel from the finalist sites to insure that the proposal-writer(s) will be directly involved in implementing the program.)

(4) Management Capacity

- Evidence of prior experience in managing programs of comparable scope.
- Quality of the management plan submitted in the proposal.

(5) Considerations of the Overall Scope of the Research Program

- As earlier sections of this Announcement have indicated, the documentation/analysis activities are intended to make comparisons across a wide range of organizational arrangements. An important consideration of the overall research effort, then, is the need for variation among the programs selected for funding. If a similar organizational arrangement is proposed by a large number of different groups, for example, it is likely that only a few will be selected for funding, even if several others rank very high on their technical merits.

The Process of Selection

The closing date for the receipt of all proposals was April 22, 1974. One hundred six proposals were submitted by that time. The internal review process then began. Each proposal was read by at least three reviewers. Thirty-seven proposals were selected at this stage for external review. The external reviewers helped the NIE staff to reduce the number of sites to be reviewed at the next stage to eighteen.

The next stage was site visits which had the purpose of enabling staff on the Problem Solving Program more thoroughly to evaluate finalist sites against the selection criteria. These were 1½ to 2 day visits, consisting primarily of interviews, in most cases with people designated by the proposal writer(s), and observation. On June 9, 1974 immediately following the return to Washington of all site visiting teams, the Problem Solving staff convened to evaluate the eighteen sites. From those sites the staff selected ten finalists.

In preparation for negotiations, scopes of work were drafted for each of the ten selected sites and sent to proposers for review and modification. On the basis of unacceptable changes in its proposed scope of work, one selected site withdrew, leaving nine sites. NIE took an active role in suggesting modifications to the original proposals which they thought would strengthen the projects.

The first stage selection process to thirty-seven sites appears to be rather consistent with the formal criteria and eligibility requirements. NIE staff gave the following reasons for rejection:

1) the proposal did not come from one of the fifty largest cities.
2) the target school was not an urban school.
3) the target school was not considered to have a low income population.
4) the site had no experience in the field of proposed work.
5) the proposal did not address the areas of concern in the Announcement.
6) there was too much reliance on specific technique (e.g., a reading program, a math program...).
7) the proposal was for a district wide program rather than a school building or cluster of school buildings program.
8) the goals, outcomes, etc., of the program were not clearly defined.
9) the proposal was designed to solve a specific problem, but not to build a capacity (see Baldwin, 1976).

Though there were some borderline cases, most of those rejected fell into one of the above categories.

The second stage selection to eighteen sites was not as simple. Since we did not talk with any of the external reviewers, we do not have a very good understanding of the informal criteria used at this stage. It appears, from the material we reviewed, that the reviewers were emphasizing a well thought through plan that did not propose a totally new project and that was feasible.

Our information about the final stage of selection from eighteen to ten sites comes from candid discussions about this process with NIE staff members. From these discussions we can then add the following unwritten considerations which augmented the original criteria during this last stage of selection.

First, location was not an important consideration in the selection (except in the case of a proposal from Hawaii, one staff member commented in jest). The choice of four sites in New York might bear this out. The only exception may have been the selection of a Federal City site which possibly was affected in part by its proximity to NIE and, at least, some of the staff's familiarity with the site.

Second, the prior knowledge of NIE staff about a site helped the site in some instances and hindered it in others. One particular site appeared to have a viable proposal on paper, but it was known by some to be struggling for survival. NIE staff did not want to totally support a project, but to aid in its continuing success. On the other hand, it was also important for some of the NIE staff not to support projects that could carry on their work without NIE's aid, as one person put it, "it would be like putting icing on the cake." For other staff members the issue was irrelevant.

Third, an examination of the final eighteen proposals by NIE revealed that there were only four proposals remaining that had been submitted by school districts. Therefore, there seems to have been an attempt to consider favorably at least some of those proposals.

Fourth, the Announcement states that NIE wanted to make sure that documentation and analysis would proceed expeditiously. The NIE staff, discussed the possible access problems DTA might encounter and, in at least one instance, this was an important factor for the decision on a proposal.

Fifth, the support each proposal appeared to have from the school board, superintendent, district superintendent or other power group became an issue in the discussions. When this type of support appeared to be absent the proposal was not automatically rejected; but the NIE staff then considered if the staff of the project had the strength and commitment to operate the project in an unsupportive or hostile atmosphere. This was particularly an alternative when the proposal represented a strategy viewed as important by NIE staff (e.g., the direct impact of the community on the school).

The Selected Sites

Following are brief sketches of the nine strategies* which were finally selected (Wilson, T., 1977). Fuller descriptions are available elsewhere (see Lenoir, 1977; DTA case studies of each site).

The selection process and the nature of the sites selected ultimately has profound effects on what we can and cannot say and on the conclusions that we and our readers can draw from our study. We need to share our reflections on this impact.

Cultural Continuity Project in Urban Education (CCP) - San Andreas (4)

> The CCP believed that much of the failure in urban education was due to the discontinuity between the cultural context of the child's community and that of the local school. The project provides resources and training for school staff and parents to reduce this discontinuity. CCP works in two predominantly Black elementary schools where student achievement levels are very low.

* For River City, two strategies are included here, the Imaginative Educational Cooperation Project and the Washington Neighborhood School Board.

The Project is composed of mental health professionals, community organizers, and parents who, building on the theme of cultural discontinuity, taught teachers the cultural styles of their students and encouraged parents to be more involved in the educational process. Working through committees they focused on suggesting new ways of teaching children by building upon their cultural strengths, by facilitating the acceptance by school administration of suggested changes, and by encouraging representatives of the larger school community to inform the school of various aspects of the community culture. Parent Assistance Groups in the two schools operated differently.

Many of the teachers with whom the project had worked were reassigned to other schools to meet integration guidelines. During the next year the project refocused its activities to work with parents on helping them to develop strategies to become more effective in working with school personnel and in the broader political realm in the interests of their children.

Faculty Development Project (FDP) - El Dorado (3)

FDP was created as a result of an agreement between the Project Director, the El Dorado Teachers' Association and the district. The project was endorsed by the superintendent who saw it as a way to create more responsibility and initiative at the school level. The FDP project is founded on the basic assumption that "decentralized decision making and self-governance at the local school level must involve teachers directly because it is right, relevant and practical to do so (White, n.d.).

The Project held workshops with teachers on developing skills to assess needs, priority setting, problem solving, trouble shooting and constitution building. It was required that each school involved in the project write a constitution. After the constitutions were written and adopted they were to serve as the instrument for institutionalizing the right of faculty councils to make decisions about student discipline, curriculum, allocation of funds, teacher duties, extra-curricular responsibilities, hiring/firing and other matters.

Imaginative Educational Cooperation Project (IEC) - River City (6)

The IEC group was part of a central office school district staff. The IEC project was written and implemented by two members of the Organizational Development (OD) department of the River City school district.

The OD department was started by the superintendent in 1970 to support efforts to humanize and decentralize the school system in terms of the development of personal growth and communication training. The department was disbanded and later revived because the superintendent and the head of the OD department reconceptualized OD to mean the identification of organizational problems and of skills to resolve those problems. The new purpose was to improve the problem solving capacity of the school system. The

goals of the collaborative problem solving process were to be accomplished by developing temporary problem solving structures based on expertise rather than on roles, developing an efficient communication system, surfacing and managing conflict between individuals and groups, and setting goals and priorities by rational methods.

The merger of the River City school system and the Jackson County system brought the second demise of the OD department leaving only the head of the project to carry on the work. One neighborhood school board, with which the IEC worked, is itself an informative school improvement group. This group is described in the next section on community interaction and decision making.

Inner City Consortium-Southend Intermediate School - New York (2)

The director of the Inner City Consortium's educational program was introduced to the principal and faculty of Southend Intermediate School by a consultant to a project that was then in operation in the school. The Consortium was to use its expertise to support and continue the work of the pedagogical and advisory structures. The Consortium applied for a federal grant from NIE. The funds from this problem solving grant (NIE) were used to build and equip a teacher center in the school. The Center was to support the mini-schools and the work of those teachers developing curriculum projects. The mini-schools were substructures of the larger school which allowed for smaller groupings of students and teachers. The Consortium was also to provide training to members of the School Growth Guide Group (SGGG), an advisory panel to the principal, in a planning and decision making process. The membership of the SGGG was composed of teachers, parents, students, and the principal. Under the NIE grant, this group was to have decision making power over the activities and functions of the teacher center. The SGGG funded curricular projects initiated by the principal and teachers.

Southend Intermediate School is located in a depressed area of the city. Due to the rapid neighborhood decay and demolition of housing surrounding the school, it has lost many of its students. In the year of our documentation the school lost more than half of its faculty due to the declining student enrollment and teacher layoffs. Southend I.S. has been fortunate, however, in that the principal continues to pick out teachers and encourage them to write grant proposals. These grants have brought extra funds to the school and have allowed the school to generate some unique educational programs: an industrial arts program for retarded students, a poetry writing program for poor readers, a videotape studio in which students create and produce television shows and a nutrition program to provide nutrition education for students and to monitor their physical growth.

Junior High School Network Project (JHSN) - Federal City (7)

The JHSN Project sought to change the organizational decision making processes in three junior high schools by changing the understandings existing among the faculty and administration about decision making.

The project has undergone several leadership changes and with each leadership change came an alternation of the school assistance strategy. The original training plan was to help staff at the schools learn to employ the elements of Management by Objectives (MBO) as a process to improve the school's decision making capacities. The current strategy emphasizes that school practitioners systematically plan problem solving strategies, although not necessarily by using MBO. In the school improvement group's view, collaborative school decision making between the administration and teachers could strengthen the school's planning and management capacities.

Neighborhood Corporation for Educational Improvement (NCEI) - New York (9)

In response to community pressure, the Board of Education formally designated a four block area for a new school that would serve a community of low-income Black and Hispanic peoples from East Town and white middle class people from Parkville. Interested parents from the district in this area formed the Educational Improvement Committee which deliberated on the kind of school that would best fit the needs of students. The Educational Improvement Committee changed its name to the Neighborhood Corporation for Educational Improvement (NCEI) and set up tentative plans for launching a pilot high school named East Town High School. The committee constituted itself as a not-for-profit community corporation and secured from the Board of Education a school finance contract by which the Board relinquished fiscal control of the high school to the community corporation, a rather unique phenomenon.

The executive director of the corporation and the administrative leadership of the school worked together on decisions and policies affecting the operation of the corporation and its support for the school. At the time of the DTA study NCEI provided fiscal and political support for the school. Members of the executive committee of the corporation, composed of community representatives, held all policy and discretionary powers.

Program for Satellite Teacher Center (STC) - Iroquois City (5)

The STC was established by the founder of a successful teacher center located near a major university campus. This new center replicated the operations of the original center in its informality and voluntary nature. The Center's Board (STC) was composed of teachers, parents and an administrator. It attempted to provide an opportunity for teachers to gain control over their work by making use of their

resources of funds and services. The funds were distributed through the funding of proposals submitted by clients who were mostly teachers. Specific services were provided directly to clients by putting individuals who possessed specific skills in touch with other individuals or groups who needed those skills. Thus the center served the function of a broker of resources and services.

Responsive Education Program (REP) - New York (8)

The Learning communities in the public schools are supported by the Assistors Service and University Center for Responsive Education which has its headquarters in a major university. The Assistors Service operates under the charismatic and central leadership of Professor Marian Barber, an acknowledged authority on educational practice. Her prominence is based on her expertise as a practitioner. Professor Barber is the master teacher to the Assistors who carry out the work of the Assistors Service in the schools.

Assistors work in a face-to-face relationship with teachers, parents, administrators and students. Using modeling techniques, Assistors help teachers learn more about a child's development, understanding the use of materials for instruction, planning and record keeping, planning classroom activities, trips, projects, and curriculum. In the daily contact in the school, Assistors make independent judgments about program strategy, formulations for future work and developing relationships with teachers, administrators, and parents who engage in voluntary contact with them. Although the Assistors develop a specialty or expertise, they are generalists in the practices and principles of open education. They share the common view that children are intrinsically capable and motivated individuals whose learning and growth are generally inadequately met by schools.

School Self-Improvement Project - New York (1)

The Coalition for Business and Educational Collaboration (CBEC) is a public service organization supported by national corporations based in New York. Its membership is made up of representatives of a large number of corporations. In 1969 it entered into a relationship, referred to as the Collaborative Planning Project, with four New York high schools in which businessmen served as consultants to assist those schools in preparing graduates who could function more effectively in college or in the world of work.

In its second phase, referred to as the Self-Improvement Project, the Collaborative Planning Model was developed. Briefly, the model held that a person (internal consultant) with skills in group process responsible for change in the school, working in cooperation with the principal, could form a committee representative of and open to all school constituencies (faculty, administration, students, parents, and community) to identify, design and implement plans for the school's improvement.

The CBEC provided funds to the school to encourage the research and development of experimental programs by teachers. In addition to the availability of funds for programs several other elements were deemed essential to the Self-Improvement Model: a school improvement planning committee, an Improvement Coordinator, and office for the Improvement Coordinator and the Improvement Assistant, a program review committee, outside consulting services, on-going problem solving meetings and formative survey feedback.

The theory and practice of organizational development was incorporated into the Self-Improvement model as a way of training participants in problem solving skills. The emphasis is on sequential movement through the following phases of systematic planning: entry, diagnosis, planning, research and development, implementation and evaluation (Davis, 1977).

Washington Neighborhood School Board - River City (6)

The decentralization of the River City school system was designed to make the local school the locus of decision making. Neighborhood School Boards were to be established in each school building in order to bring about the involvement of community members and parents as well as the school staff in the decision making effort. Although the Neighborhood School Boards had no legal status, they received legitimacy and support from the superintendent and from the Board of Education. Some of the Neighborhood School Boards never developed. The Washington Neighborhood School Board is a significant exception. With the merger of the River City system and the Jackson County system support for the Neighborhood School Boards decreased significantly.

The Washington Neighborhood School Board (WNSB) is currently legally incorporated in the state as a not-for-profit corporation. The board of twenty members is composed of a balanced membership of staff members of the community school (Washington), the parents of children attending the school, and other community members. The WNSB has sustained its existence through selective recruitment, informal training, successful community programs and the charismatic leadership of the principal of the Washington school, Ned Winter.

The Difficulty of Selection of Sites

We were impressed with the thoroughness of the selection process. NIE staff took unusual care to insure that the sites represented what NIE wanted. They worked out strong criteria of selection. They engaged in both internal and external review. They contacted references who were designated by site members as able to speak about their previous activities. They visited the final set of

sites to talk to potential participants and to get first hand knowledge of the settings.

Both NIE and DTA therefore expected that the sites we would be studying represented exemplary projects built on some time-tested, partially proven organizational arrangements. It was expected that we could learn much from them as instances of how to establish local capacities for problem solving. Our contact with the sites has revealed that this is not always true and points to the difficulty of selecting exemplary sites.

Even though all the grantees had indeed established records of good works in school communities, it was wrong to conclude that the particular funded strategy was well established or successful. In fact, in the process of "extending, refocusing or adding new components to existing activities or organizational arrangements" (NIE, 1974), some of the sites seemed to be only at the beginning stages of working out a new strategy in new settings. Thus, although NIE did not intend to fund new projects, functionally the situation was often exactly that. Similarly, the commitments between participants was often not as strong or clear-cut as was anticipated.

This fact did not mean that there was nothing to be learned from the sites about capacities for problem solving and how to build them, rather it meant that the situation was often not as we or NIE staff members expected. We might have designed our study differently or selected sites other than those funded by NIE, (for more on our focus, see the later section on research methodology). As it was, we were led to believe they were exemplary sites. Our mandate from NIE could be paraphrased as in the following sentences. We put a lot of effort into finding projects that had demonstrated capacities for problem solving. Study them carefully, learn from them, and help others to adapt the good things these projects are doing.

Although some of the sites have been about exactly what proposals described, most were not. Even when they were not as the proposals described, most of the funded strategies indeed accomplished some interesting and useful things. Similarly there was much to be learned from activities that did not work out as intended and from activities peripheral to the funded strategy. Thus, although there was much to learn, the fact that most of the strategies were not as well established in their settings as most of us expected, led to some confusion and misguided effort. The extension and refocusing process was especially important in putting the strategies in the position of just getting established. Below we present a table illustrating the ways in which what NIE funded differed from the previous work of the nine school improvement strategies. It shows the addition of elements along two dimensions: 1) whether or not there was a change in the location of the work; 2) whether the changes in previous strategies were major or minor.

TABLE 1: New Elements Added in NIE Funded Work of Nine Groups

Dimension 1: Change in the Location of the Work	
Change	6 Groups
No Change	3 Groups
Dimension II: Extent of Change in Previous Strategies	
Minor Change	6 Groups
Major Change	3 Groups

This experience points to a serious problem with currently available means of determining exemplary practices. NIE staff members seem to have done everything in their power to locate and select projects which satisfied their criteria. They tried to penetrate beneath the usual image promoting tactics that are often a part of proposal writing. Nonetheless, neither they nor we ended up with what we expected. Either of two distressing conclusions are possible: 1) The milieu in which proposal writing goes on is such that it is nearly impossible for granting agencies to discover what is really going on; or, 2) the settings in which schools and improvement projects must function are so volatile and unpredictable that what may have been a strong "successful" activity at the time of the proposal writing can be radically reshaped in extension or refocusing.

Capacity for Problem Solving vs. School Improvement

NIE's agenda was occasionally the same as the project's agendas. All the projects were indeed concerned with improving urban schools. NIE, however, was specifically interested in projects who were going about that improvement by trying to build capacities for sustained improvement. This manner of conceptualizing an approach to working with schools was alien to several of the projects. They seemed to have adapted the language of what they wanted to do to the language called for in NIE's Request for Proposals.

In some situations this adaptation was not a problem because as with Moliere's gentleman it was discovered that they indeed had been speaking prose all their life - i.e., they had been working to develop capacities and had just used another vocabulary. For some of the other projects, however, the developing of capacity was somewhat alien to what were their real interests, usually thought of as improving and helping schools. Again, this disjunction between what the sites wanted to do and what was NIE's experience confounded our expectations.

Ultimately, it may be that the failure of some of the sites to place their emphasis natively on capacity building will have served to enrich our analysis. Armed with our questions about what are capacities for problem solving, we were confronted with practitioners who did not think in those terms. In some situations it made us wonder if a particular setting was a rich source of information on our topic; in others, however, the confrontation made us seriously question the concepts and build richer ones (see section on concepts of problem, problem solving, and capacity).

NIE was eager to receive proposals from all kinds of entities. Instead they received proposals primarily from people who are the customary ones to hear about possibilities and to write proposals - i.e., a variety of kinds of assistance groups. They received few proposals from groups of practitioners or school districts. This fact combined with the reality that several of the projects were not as strongly established as anticipated shaped our study in a strange way. We often found ourselves focusing on the activities of the helpers even when that was not the most profitable source of information.

NIE funded particular strategies. DTA was instructed to concentrate on documenting these strategies. Often, however, after getting to know the sites, we discovered there were other features of the settings which might teach much about capacities for problem solving. In fact, the schools that were involved with these strategies tended to be dynamic places that got involved with many projects. The nature, however, of what was identified as the strategy that got funded and the expectations about the power of the strategies shaped the way our research focus was determined. There was a tension between our charge to document particular funded strategies and our charge to do more basic research on how schools do or do not go about problem solving.

Limited Set of Strategies

NIE made a genuine effort to achieve a wide sample of strategies. For many reasons, including both the way networks distributed information about this competition and the predisposition of the NIE group and their reviewers, some kinds of strategies are not represented among the nine sites. Although we cannot provide exhaustive treatment of kinds of organizational arrangements which are not represented, we can by way of suggestion say that there were a few strong examples of the following among the funded strategies:

> Advocacy arrangements: emphasize a watch dog role in respect to the actions of schools and frequently utilize conflict strategies and emphasize involvement of the community.
>
> Centralized bureaucratic arrangements - approaches which emphasize finding more effective and efficient centralized structures - e.g., PPBS accountability, systematic evaluation.
>
> Teacher training, school of education, or supervision arrangements - approaches which emphasize on-going in-service education for teachers.
>
> Approaches which combined particular curricular or teaching approaches with relevant organizational arrangements - e.g., schools organized around behavior modification principles or special emphasis schools.
>
> Information and resource utilization arrangements - approaches which emphasize "extension or linking agent" like roles to mediate between R & D information and user needs.

Such approaches as these will then be under-represented in our attempts to understand local capacity for problem solving. Our analysis is built primarily on the nine sites we studied. Our analysts have experience with many other improvement projects and with extensive literature, but our emphasis will clearly be on these nine sites.

To also help the reader clarify the nature of our data base, we will present the following tables which present certain qualities of the sites. Some of these judgements are subjective; our purpose is not to make definitive statements about the sites but rather to give a feel for their variety.

TABLE II: Nature of Grantee Agency

Type	Frequency
Educational Service Organization	4
Component of University	2*
Teachers Association	1
Division of School District	1
Community Organization	1

TABLE III: Prime Focus Groups**

Type	Frequency
Teachers	3
Teachers-Administration	2
Parents and other Community	2
Teachers-Community-Administrators	1
Teachers-Community	0
Administrators	0
Students	0

TABLE IV: Major Thrusts of the Funded Strategies

Type	Frequency
Organizational Development consultation to train participants in systematic planning and participative planning	3
Supporting community involvement	2
Structural changes to create mini-communities of teachers who can support each other	2
Structural changes to guarantee teacher participation in school-wide decision making	1
Teacher center	1

* The Satellite Teacher Center (pseudonym) was jointly supported by Iroquois University and the Iroquois Public Schools. We placed it in the University category because that seemed to be where its prime identification lay.

** Here we note what actually came to be focus groups rather than what the proposals claimed to be the focus groups.

As explained earlier we have encountered much in the sites that can enrich analysis of arrangements to support continuing improvement besides the funded strategies. Our analysis will draw on this larger data base. Nonetheless readers need to be aware of important characteristics of our data base so they recognize the limited sample of school improvement strategies in which our concepts are grounded.

APPENDIX B: NATURE OF THE DTA CONTRACT AND OF THE ORGANIZATIONS THAT RECEIVED THE CONTRACT

In addition to understanding the nature of the nine sites, the reader may also want to know about the specific charge of the contract and the organizations which received the contract.

DTA Contract: Focus on Documentation and Technical Assistance*

Perhaps the most unusual aspect of the DTA contract has been its dual emphasis on documentation and use of the information (called "technical assistance" by DTA). This has meant that we researchers have worked in a context where demands were being made on us that weren't usually made on researchers. It also meant that expectations about our work and criteria underlying what was valued might very well be different than those at work in research alone. This section presents the several ways in which our dual emphasis makes for differences from traditional research projects.

First, the criteria for hiring documentation staff were not the same as they might have been in a straight research project. When possible, we sought researchers who had experience as practitioners, who were interested in actively helping to improve urban education and who came from backgrounds similar to those who were served by urban schools. We judged that these factors might help them to conduct research that would be "useful". Thus, documentation staff might not have had a background as exclusively focused on research as would be expected of such a staff in an exclusively research project.

*In this paper we concentrate only on those features of the DTA contract which may have impact on the nature of our documentation and cross-site analysis. For a fuller description of the DTA contract and the organization of DTA see DTA Overview (Wilson, T., 1977).

There were two main classes of documentation personnel - Site Researchers and Research Coordinators. Site Researchers were placed in each site. They had responsibility for documenting the funded strategy, collecting information relevant for comparisons with other sites, and serving as a resource to technical assisters. Research Coordinators were central office staff who had responsibility for supervising Site Researchers, conducting cross-site analysis, and acting as resource for technical assisters. The following tables illustrate the diverse backgrounds of staff.

TABLE V

Education and Experience Backgrounds of Site Researchers

NAME	EDUCATION	EXPERIENCE AS PRACTITIONERS
Karunakaran	MA Child Development MS Journalism	Journalism
Rivera	BA Sociology	Community organization
Davis	Ph.D. candidate Educational Administration	Social work Teacher - elementary
Paoli	Ph.D. candidate Anthropology	Teacher - elementary Community organization
Brown	Ph.D. Experimental Psychology	Applied behavior modification Job Corps staff
Sherlock	MA Anthropology	Community organizing
Clark	Ph.D. Anthropology & Education	Teacher - secondary
Gordon	MA Social Work	Teacher - secondary Social work
Word	Ph.D. Social Psychology	Teacher - Jr. College

TABLE VI

Ethnic Backgrounds of Site Researchers

Black	3
Anglo	3
Hispanic	2
East Indian	1

TABLE VII

Education and Experience Backgrounds of Research Coordinators*

NAME	EDUCATION	EXPERIENCE AS PRACTITIONERS
Phil Runkel	Ph.D. Psychology	Teacher - secondary
Steve Wilson	Ph.D. Educational Psychology	Teacher - elementary
Terry Lenoir	Ph.D. candidate Educational Administration	Teacher - secondary
Yvonne King	BA Sociology	Community organizing
Art Hyde	Ph.D. Curriculum	Teacher - secondary
Norris Johnson	Ph.D. Education & Anthropology	Teacher - secondary
Deborah Baldwin	Ph.D. candidate, History & Education	Teacher - elementary

TABLE A-8

Ethnic Breakdown of Research Coordinators

Anglo	4
Black	3

* At any given time there were four research coordinators. At the beginning of DTA's second year, some research coordinators took new roles in the project. New research coordinators were hired.

Second, decisions about time planning and reporting were not necessarily those that would be made in a straight research project. Because DTA was interested in on-going use of information, site researchers were regularly required to fill out data reporting and analysis forms (Field Data Forms: FDF's) and to report to a research coordinator. The FDF's were attempts to generate legible condensations of the site researchers' field notes on events, interviews, and documents as the research process went on. These forms included the interpretive asides that are part of a grounded research process. In projects with an exclusively research purpose it is customary to delay revelation of findings until the conclusion of the data gathering process. Our necessity to inform the practice of technical assisters working concurrently within the DTA Project altered this pattern in two ways. First, we made detailed information available to members of technical assistance teams as soon as possible to inform their work. Second, we sought to understand what sorts of information were most useful to them so that we could adjust our data gathering practices appropriately. Third, we wanted to provide enough relatively raw material so that they could use it even if the researchers and assisters' analysis did not coincide. In a similar fashion research coordinators had many responsibilities in addition to those tied directly to documentation and analysis.

Third, because of DTA's unusual research contract, it had to take an exploratory stance toward what kind of research would be most "useful". This is not the place to present a detailed consideration of our experiences with linking research with practice. For that, the reader should consult the paper on Linkage: The Case of DTA (Holmes, 1977a). We suspended usual no-

tions about what kind of information might be useful. For example, we found that a concrete reporting of steps participants took or discussion of their perspectives might be more useful than a traditional review of the literature. Similarly, answering questions asked by practitioners or by technical assisters might be more important than answering theoretical questions.

The focus on technical assistance influenced our activities in yet a fourth way. Most of the sites were too complex for adequate coverage by one site researcher. One, for example, involved work in eight schools and a technical assistance group. We had to make choices in most sites on where to concentrate energies.

DTA made a decision to concentrate on the schools in each site where the assistance group was seen as having the most success. The decision was made in hopes of gathering information that would give us material that other schools could use and which might be inspirational. This judgment derived from past work at the Center for New Schools (CNS, 1974) that concluded that people in urban school communities do not want to hear about failures and can learn more from success.

While this decision may have made sense for providing information to assisters, it did not make sense for some kinds of analysis. Within site comparison and contrast situations might have been chosen in a different way if the project was a pure research project.

The dual focus on documentation and technical assistance has enriched our analysis in several ways. It has introduced valuable concepts into our deliberations and has given us the opportunity always to view our work from the perspective of potential usefulness. In other ways the dual focus has been frustrating. It has often dissipated our energies and complicated our

activities. Different staff in the project have had different feelings about the combination at different times. The ultimate judgement about cost and benefits will need to wait till the end of the project. No matter what, it has been an important part of the context of our work.

DTA Contract: CNS and CEPM as Organizations

NIE conducted a separate competition to choose the group that would have the responsibility to document events at the nine school improvement sites and to set up arrangements that would help other urban schools use the information. Again a thorough selection process was conducted which included interviews of the finalists by representatives from the nine sites. NIE was looking for a contractor who had a background in both the research and assistance work that was called for. A consortium of the Center for New Schools from Chicago and the Center for Educational Policy and Management of the University of Oregon received the contract.

CNS was started in 1971 as a not-for-profit research and assistance group that was independent of any institution. It focused on aiding the development of urban public alternative schools. It later broadened its focus to include other research and assistance efforts to help educators, parents, and community groups improve urban public schools (for more information see Center for New Schools, 1975).

The Strategies of Organizational Change group is a unit of the semiautonomous Center for Educational Policy and Management of the University of Oregon. The Strategies group has been working for several years in organizational development interventions aimed at making basic changes in school organizations (see Center for Educational Policy and Management, n.d.).

The history and commitment of the two collaborators in DTA functions as an important part of the milieu in which the researchers worked and in which the case studies and cross-site analysis was produced. For example, to be hired, researcher's orientations had to be acceptable to core staff, and the discourse in the project was likely to be punctuated with concepts and experiences growing out of CNS's and CEPM's previous work. This collaboration of two groups with significantly different orientations kept any one perspective from totally dominating the intellectual atmosphere of the project. Some people without long affiliations with either of the two centers were hired and became part of the core staff. An effort was made in the design of research to protect the independence of site researchers (see later section on methodology). Nonetheless, given the nature of documentation research, the reader has a right to know these facts about the milieu in which it was conducted.

APPENDIX C: DOCUMENTATION AND ANALYSIS METHODOLOGY

NIE Expectations: Documentation of a Particular Strategy vs. Basic Research on Problem Solving Capacities

The DTA contract called for two kinds of major research efforts: documentation of the funded strategies and cross-site analysis. Ultimately some tension was experienced between these activities. On one hand, as described earlier, NIE had invested considerable energy in selecting and funding particular strategies for building the problem solving capacities of local schools. Along traditional lines of documentation, they expected DTA to tell the story of these particular funded strategies. On the other hand, they expected DTA to conduct basic research on what features of local school communities seemed to lead to on-going sustained improvement activities and what could be done to encourage the development of these features.

Obviously, these two streams of work should be related. The funded strategies represented a set of hypotheses and actions about what are capacities and how to build them. Thus, study of them would provide valuable information. Similarly, it would seem that a documentation of a funded strategy would inevitably deal with how the strategy played itself out in the schools.

We discovered, however, that operationally the combination did not work out as smoothly as one would think. The strategies usually manifested themselves in a particular entity or what we call a technical assistance group (TAG). These were the people who wrote the proposal, who dealt with NIE through the competitions, and who were responsible for conducting the work and spending the money. They usually worked in several schools and some worked in as many as eight schools. Researchers often had to make difficult decisions about where to spend time and where to concentrate efforts.

Often documentation of the TAG: its perspectives, its planning, its internal workings, its problem solving, its actions, etc., was more than a full documentation load. Since it was clear we had to document the strategy, site researchers usually spent more time focusing on its activities and perspectives than on the people the TAG's were working with. Note that in some sites the TAG and the school being worked with were almost synonymous. In these sites the time split was not so problematic.

Even more critical than the time split were the givens in regard to perspective. It was primarily the funded strategy that had obligations to DTA (through the TAG's agreements with NIE). DTA signed site agreements with the funded strategies and often TAG people were involved in the selection of the site researcher. TAG members were the ones principally responsible for reviewing case studies. Entry usually proceeded through the TAG. The TAG people were those who were more likely to have interest and time to talk to site researchers than did school people. Given the mandate to focus on what the TAG was doing, site researchers were more likely to be in the school as an observer at a particular TAG event than as an observer on other days. Questions were more likely to focus on TAG events than on other issues. The perspective of the TAG was more likely to be the focus of the research and the case study than were other perspectives. We do not mean that site researchers were captured into seeing the world as the TAG did. Most maintained considerable critical independence. We do mean, however, that the work of the TAG and the issues it defined as important were important foci. The reader needs to understand that. We were not studying the schools as total settings. As we realized there was significant data about school's capacities that was only peripherally related to the funded strategies, we began to urge site researchers

to spend more time away from the TAG and TAG issues. They were willing to make this move only at a relatively late point in the research as they grew more confident about their understandings of TAG activities and perspectives.

Clearly then, our main emphasis was on documenting the funded strategy. The mandate might have been phrased: "Document the funded strategy and its impact on the schools." It may turn out that a better mandate for the basic cross-site research and for supporting technical assistance would have been: "Document school's capacity for problem solving with a special emphasis on how the funded strategies fit in."

We have managed to gather much information relevant to answering the basic research questions. This author feels, however, that the extensive concentration on documenting the funded strategies has put important constraints on our cross-site analysis and in our support of technical assistance activities. When future projects such as DTA are contemplated, careful thought should be given to how many limits should be placed on the contractor to the choice of focus.

Case Study Documentation of the Sites

Research Process

The sites started working on their grants in June, 1974. DTA was selected as the contractor for documentation and analysis in January, 1975. Site researchers were hired and started studying the sites in Spring, 1975. In two sites, there was turnover and new site researchers joined the staff later in the year. Research coordinators started documentation activities earlier by collecting documents, interviewing NIE project offices and visiting the sites.

Site researchers studied the sites from their starting date until June, 1976. Because of extensive DTA responsibilities in addition to documenting

the sites such as writing the field data forms described earlier, and performing other tasks designed to make sure research and technical assistance informed each other, not all site researchers were able to spend full time in the field. They spent roughly a minimum of three days in the field each week. From June until the Winter of 1976 site researchers wrote first drafts of case studies with some minimal on-going monitoring of events in the sites. From Winter, 1976 until June, 1977 they again studied the sites splitting their time between documentation, cross-site analysis, and working on technical assistance. (See the case studies for the particular variation in each site researcher's process).

DTA employed a multi-method research approach which emphasized qualitative data collection and analysis. Site researchers collected information via observation, interviews (both structured and unstructured), and document analysis. They made use of quantitative studies of the sites done by other agencies. They adopted techniques eclectically from the traditions of ethnographic participant observation (e.g. Wolcott, 1975), of qualitative sociology (e.g. Becker, 1970; Bogdan and Taylor, 1975; McCall and Simmons, 1969; Schatzman and Strauss, 1973) and of qualitative educational studies (e.g. Jackson, 1968; Smith and Klein, 1973).

We tried to combine both phenomonological and positivistic orientations i.e., site researchers worked to gain understanding of participant perspectives about what happened or definitions of situations; they also endeavored to watch events from the perspective of the outside observer, paying attention to chains of events. The emphasis of particular site researchers varied. Interested readers are urged to consult the case studies for more details on different site researcher's research processes.

Generally, though, all site researchers engaged in elements the following:

Systematic entry and rapport building - since the relationships of the researcher with participants is a key research instrument, site researchers systematically cultivated acceptance by all groups in the setting. Mapping - Site researchers worked to discover the behavior settings that were salient and the nature of the saliency for groups of actors and systematically tracked behavior in these settings. Finding Key Informants - Site researchers worked to establish and initiate relations with knowledgable people in the setting who would be willing to share on-going interpretations of happenings. Collection of basic historical, biographical and demographic materials. Site researchers collected these materials on the TAG, the schools, and the communities surrounding the schools. Event Analysis - Site researchers identified major events and interviewed participants to track various perspectives on the events as well as observing the events themselves. Network Analysis - Site researchers tried to ascertain who related to whom and for what purposes. Control of Bias and Reliability - Because there is a great danger of bias in research, site researchers were instructed to use traditional techniques for dealing with this issue. Before they started research, they made themselves critically self-consciousness by writing statements about their perspectives on education, improvement of schools and the particular strategy they would be studying. They also searched data for negative evidence, checked evidence with participants, etc. We also added the less traditional approaches of periodic joint observations with fellow site researchers and with research coordinators. For a fuller discussion of what we see as the basics of qualitative research see Wilson, S., (1977b).

Substantive Foci - Grounded Theory

We intended that site researchers would aim toward producing case studies that accomplished two ends:

a. Documentation of the Funded Strategy. The case study would aim at answering the following question:

-What did the TAGs hope to accomplish?
-What was the TAGs analysis of and perspectives about problems of schools and the ways they could be solved?
-In what did the TAG think a capacity for problem solving resided?
-What was the history out of which the TAG and its staff came?
-What were salient features of the context in which the TAG

worked?
-What were the concrete activities of the TAG and the rationales behind them?
-What happened as the TAG tried to implement their plans?
-What kind of impact did they have both intended and unintended?
-How did they change their plans and analysis and why?
-What were school participants attitudes about the strategy and the activities that were part of it?
-What factors could explain what the TAG accomplished and didn't accomplish?
-What factors explain school participants attitudes and activities?
-What else was going on in the schools that related to the strategy?
-What can someone who wants to improve urban schools learn from this?

Site researchers aimed at writing a descriptive and analytic history of a funded strategy as it tried to get established and have impact on schools. We did not aim at evaluating the strategies, but rather at providing as much information as possible about what transpired and different actors' assessments of the events.

b. Answering the Questions: What are Capacities for Problem Solving? How Can They Be Developed? The site researcher would aim at discovering what features of school-communities seemed to aid or hinder people in sustaining processes of problem solving and improvement. The prime candidates for this focus, of course, were those features that the funded strategy was trying to manipulate. We hoped, however, that in addition to documenting the funded strategy, the site researchers would be able to take a more global look at the functioning of the settings to uncover capacities that were not central to the TAGs activities. We intended therefore that the case study might address these kinds of questions:

-What do different groups of actors perceive of as problems?
-What do they think is required to solve problems?
-What actual problem solving processes go on?
-What processes go on that impede problem solving?

-How does problem solving fit into the on-going educational and organizational activities and structures of the school setting?
-What kinds of activities go on or might be conceived in the setting that help the school build a capacity aside from the funded strategy?

As we described earlier, in a situation where the research resources did not match the complexity, there was a tension between these possible goals for the case studies. Generally the site researchers opted to emphasize documenting the funded strategy. Significant information was also gathered on the more general issue of problem solving in schools.

DTA's Orientation to Theory and Empirical Traditions is Based on Grounded Theory Approach

We realized that there were a great many competing claims on what concepts and theoretical orientations would prove to be most powerful in guiding the documentation and producing useful research. Internally the NIE group had a diversity of orientations. The TAGs at the sites represented a variety of ways of thinking about urban school problems and urban school improvement. The two collaboratoring organizations, CNS and CEPM, had favorite theories and frameworks. The site researchers came from a variety of disciplines and backgrounds including anthropology, sociology, behavioral psychology, early childhood education, community organizing, and educational administration.

DTA decided that a single theoretical framework would be inadequate for capturing the diversity of approaches in the sites and for capitalizing on the diversity of perspectives that DTA personnel brought to their work. Therefore, we emphasized the documentation of the sites in their own terms and in the terms of the professional approach that each site researcher would bring from his or her background. As much as possible, we wanted the theoretical orientation to be generated from the encounter of the site researcher with the

site.

DTA's emphasis on using information to help other urban schools provided another reason for our desire to maximize diversity. We wanted a variety of case studies built on a variety of orientations so that we might ask questions about usefulness of different case study approaches as we tried to mine the different studies.

Grounded theory generation is a complex process in which what one knows from previous research, theory, and prior experience is delicately balanced against perspectives of the people being studied and observation of events. Concepts, explanations, and theories emerge as the researcher develops hunches and tests them through further data collection. The method by which our data analysis process was accomplished is discussed in the next section.

Cross-Site Analysis

DTA attempted an innovative approach to cross-site analysis. Traditionally, cross-site analysis on projects such as DTA involves either the central research staff designing interviews and questionnaires that are applied in standardized fashion across all sites or some external persons reading case studies and trying to extract common themes. We were not satisfied with either of these options. As anthropologists who have tried to do comparative studies will attest (Narol & Cohen, 1973), the design of standarized questionnaires appropriate cross-sites is extremely difficult. The case study reading approach loses because the analyst lacks an independent data base on which to build analysis. We tried to design a cross-site analysis process which built firmly on the insights that were emerging from study of the sites. There were several important elements in the process.

Research Coordinator's Knowledge of the Sites

We felt that in this kind of research central office analysis staff are often too distant from the data on which they base their analysis. We therefore arranged for research coordinators to become intimately involved with data from the sites. Site researchers regularly prepared condensations of field notes (called field data forms) which research coordinators read and used as basis of discussions with site researchers. Site researchers also shared their emerging analysis with research coordinators. Site researchers regularly sent documents produced by site participants. The research coordinators also periodically visited the sites. We believe we succeeded in helping research coordinators to become knowledgeable about the events at the sites. Certainly they didn't know the sites as well as site researchers, but they knew them better than people at their level in a complex research contract do.* We felt that this level of acquaintance was absolutely necessary for the process of secondary qualitative analysis. In addition the field data forms were prepared so that they could be stored in a computer library**, and would be accessible by site, dates, actors involved and basic concept codes.

Dialectic Process of Developing Cross-Site Interpretations

Research coordinators regularly met in conference calls to share updates on events at the sites they were working with, emerging site researcher analysis of events, the research coordinators emerging analyses of events and connections they saw with relevant theory and previous research. In this group

*The actual degree of research coordinators knowledge of sites and interaction with site researchers varied from dyad to dyad.

**For more on the computer system see (Clark, 1976; Sherlock, 1976; Stern, 1977; Wilson, S., 1976)

process the value and fruitfulness of various interpretations was tested. Research coordinators then had responsibility to go back to the site researchers with whom they were working to pursue the emerging concerns. The ensuing discussions between research coordinators and site researchers moderated the autonomy of site researchers' theoretical orientations since site researchers were expected to gather data relevant to emerging cross-site interests.

Thus, we tried to extend the grounded research process of hunch development, testing, reformulation, etc. from the individual context where it is most common to a group context.* We also introduced the utilization interest into these discussions; that is, members of our technical assistance teams occasionally participated in the discussions to share their interests and to comment on the emerging analysis.

Organizing Concepts and Theories

The grounded theorist obviously does not start out with an empty head. DTA recognized the significant work that had been done in areas relevant to our concerns. We tried to insure that in addition to the starting concepts generated from each funded strategy's rationales and site researcher's backgrounds, all research would take into account certain standard concepts. We introduced an annotated list of basic concepts derived from prior work on the improvement of schools.

*This group analysis work was not easy. We found that the conflicting theoretical frameworks of the research coordinators, different orientations toward the importance of grounded theory, the heavy time demands on research coordinators, and the geographical separation made this process very difficult and not entirely successful. In Phase II when research coordinators were geographically concentrated, the analysis proceeded more smoothly.

This list included concepts and focuses such as the following:

> Resources, communication, participation, goals, planning, decision making, norms, subcultures, skills, conflict, power and influence, values and ideologies, curriculum, teaching as an art or occupation, student achievement, and discipline.

These served to direct researchers attention to certain features of school settings. They also served as the basic coding categories for the data storage system (see Stern, 1977 on the computer system). While we wanted these focuses to provide guidance on what site researchers should look for we did not want them to dominate the research.

As research progressed, we intended to formalize the emerging concepts and theories into what we called cross-site foci. The cross-site foci would then partially guide site researcher work for the following months. Because DTA was committed to exploring linkage between research and action, we believed that technical assistance people should collaborate in the selection and planning of cross-site foci. Also, we felt site researchers, as those most intimately in contact with the sites, should participate.

We arranged an elaborate program of site visits and generation of proposals for cross-site foci which culminated in a large conference in February, 1976, at which ideas were debated. Below is a list of the high priority foci selected:

1. Administrative support of problem solving
2. Increasing the variety of learning environments
3. Increasing awareness of cultural discontinuities
4. Increasing sensitivity to students
5. Follow through to children
6. Improving use of outside resources
7. Increasing decision making by parents

8. Building collaborative school-community governance structures.

Site researchers in collaboration with research coordinators selected three to five foci that they would pursue in their sites. The specific interpretation of each focus and relevant theory and research were the subject of discussions between site researchers and research coordinators. These foci guided research and analysis in subsequent months but they did not function in as powerful a manner as we hoped.*

In the summer of 1976 site researchers began to write drafts of their case studies. Research coordinators also began to consolidate their insights in drafts of analysis papers. As a result of this and previous work, we identified particular theoretical frameworks which as a result of working with the data we felt would be most powerful in supporting further analysis and data collection. These frameworks are discussed in the section on capacity. We also developed a cross-site research plan which asked site researchers to gather data about specific topics. The Table of Contents from the Cross-Site Research Plan is presented below:

TABLE OF CONTENTS

I. General Exploratory Questions

A. The World of Real Problems/Dissatisfactions/Improvement Ideas

II. Questions About What is a Capacity

A. Pathways for Improvement - New Roles and Structures

*While we developed this experimental approach to selecting research foci on the basis of strong rationales, the process was not as successful as we hoped. Future DTA papers may analyze this chain of events. Possibly important factors were the difficulty of large group analysis, the reluctance of site researchers strongly committed to the study of a unique setting to accept research foci from outside, conflict over underlying theoretical orientations, and the difficulty of technical assisters and researchers jointly deciding on research foci.

B. Cognitive Frameworks
C. Skills: Improve Teaching
D. Use of New Information

III. Facilitating the Development of School Capacity for Problem Solving

A. Educating or Training People For Roles and Structures
B. Facilitating Structures

IV. Additional Questions About What is a Capacity

A. Motivations - Commitments, Missions and Norms
B. Relations with Community
C. Relations with School District
D. Internal Diagnosis - Systematic Planning
E. Power/Participation/Decision Making

Because of time constraints and other administrative difficulties, not all of these questions were pursued in all sites. More detailed presentation of these cross-site issues will be presented as part of the analysis papers.

The previous sections have described the cross-site analysis process up to work on the set of cross-site analysis papers to which this is an introduction. I will now discuss the process that produced these papers.

Research coordinators* read carefully all the materials on previous analysis including, importantly, the case studies and the drafts of analysis papers. They reread many of the field data forms and site produced documents. They developed hunches related to the theoretical frameworks we proposed. They checked these hunches out with site researchers and other research coordinators. They used the computerized inquiry system (see Stern, 1977) to organize data relevant to the hunches; for example, they systematically traced the actions of particular kinds of actors around a theme of interest. They

*In summer of 1976 two research coordinators moved to new positions on technical assistance teams. Two new research coordinators were hired. The reader needs to realize therefore that research coordinators have varying lengths of association with site researchers and the data.

also read field data forms to identify events which were evidence of the themes. They sought evidence which would support, refute, or refine the hunches. They visited sites.

The heart of the process consists of cycles of induction and deduction. As is typical in induction, leaps must be made from an incomplete data base. The insights from the leaps are then brought back to be "measured" against the data. This "measuring" process involves identifying relevant incidents and participant expressions that bear on the issue and determining whether they support the emerging insights. The qualitative analysis process is much less codified than the quantitative processes. Few comprehensive presentations are available in the literature. We have shared with the reader a description of our general process. In each cross-site analysis paper research coordinators will present specific descriptions of their particular analysis process. Also, they will endeavor to share with the reader candid reflections on the strength and nature of the data base underlying particular propositions.

Secondary qualitative analysis is a tricky process. Within its framework, we believe we have managed to discover and present significant material. Nonetheless, the reader should realize that the process is full of pitfalls and can be very frustrating. There is much more work necessary to refine and develop secondary analysis methodology.

Most of our research coordinators had experience in qualitative case study research. They appreciated the control over the data, the understanding, and the intuitive grasp of the situation that comes from intensive field research involvement with a particular setting over a period of time. Indeed they saw as one of the key prerequisites for sound research the thorough contact with the complexity and subtlety of everyday life that is part of intensive first

hand observation.

The transition to secondary analysis with more remote association with the data is difficult. One must build one's analysis on data gathered through someone else's first hand involvement. One cannot fill in the notes and documents with personal recollections and subtle connections. One does not have the confidence that comes when it is one's own data. In future papers we will consider issues surrounding secondary analysis.

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